TRANSPORTATION COORDINATORS' AUTOMATED INFORMATION FOR MOVEMENT SYSTEM II (TC-AIMS II)

MODIFIED INTEGRATED PROGRAM SUMMARY (MIPS)

25 June 2002

Version 1.0

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1. PROGRAM IDENTIFICATION

PROGRAM: Transportation Coordinators' Automated Information for Movement System II (TC-AIMS II)

PROJECT MANAGER: Gary Winkler, PM Transportation Information Systems (TIS)

PROGRAM ACAT: 1AM

2. PROGRAM EXECUTION STATUS

The Transportation Coordinators' Automated Information for Movement System II is seeking Milestone III full fielding approval for its Block 1 system. It is proceeding to the following Acquisition Oversight Reviews to secure this approval:

- Army Systems Acquisition Review Council (ASARC) Review will seek Army approval to field to U.S. Army, Europe (USAREUR) upon Information Technology Overarching Integrated Product Team (IT/OIPT) approval and approval to field to the remainder of the Army following successful completion of Operational Test and Evaluation (OT&E) retest in August 2002. The program is also seeking Army concurrence to proceed to an OIPT to seek approval for immediate fielding to the U.S. Navy (USN) and USAREUR.
- OIPT Review will seek full fielding approval for USN and USAREUR. After completion of Army retest, the program will revisit the OIPT and seek approval to go to MS III for the remainder of the Army.

This Modified Integrated Program Summary (MIPS) provides executive summary level program information to facilitate senior level program review through the ASARC, IT/OIPT and Milestone Decision Review (MDR).

System Description.

TC-AIMS II automates the processes of planning, organizing, coordinating, and controlling unit-related deployments, sustainment, day-to-day Installation Transportation Officer/Transportation Management Officer (ITO/TMO) operations, redeployment, and retrograde operations in support of the Defense Transportation System (DTS). It will interface with installation, unit and depot-level supply systems, the Global Transportation Network (GTN), Joint Operational Planning and Execution System (JOPES) through the use of the Joint Force Requirements Generator II (JFRG II); and will be capable of supporting both peacetime and wartime requirements. TC-AIMS II will produce movement documentation and unit move information. It will furnish timely information to major commands (MAJCOMs/MACOMs), Transportation Component Commands (TCCs), USTRANSCOM, and the Joint Deployment Community. As a DoD source movement information system, TC-AIMS II will be a primary source of information for in-transit visibility and transportation management over cargo and passenger movement during peace, operations other than war, and war. TC-AIMS II will integrate the functionality of selected Service-unique transportation legacy systems into a single AIS migration system. It will consist of a scaleable, deployable, distributed system environment, compliant with the Joint

Technical Architecture (JTA), and Defense Information Infrastructure (DII)/Common Operating Environment (COE).

TC-AIMS II will be developed, tested and fielded in seven Blocks described below. The MS III decision for which this document was prepared is for Block 1 only:

- Block 1 – Basic Unit Move
- Block 2 – Enhanced Unit Move
- Block 3 – Movements Control and Planning
- Block 4 – Maritime Pre-positioning Force
- Block 5 – Theater Operations
- Block 6 – Installation Transportation Office (ITO) / Transportation Management Office (TMO)
- Block 7 – Map Graphics

3. ALTERNATIVES ASSESSED AND RESULTS

TC-AIMS II resulted from a major business process reengineering effort by the U.S. TRANSCOM in 1994/95. The JTCC assessed the detailed functional, technical and programmatic capabilities of 120 transportation and transportation-related automated information systems. Of those, 62 were identified for elimination; the remaining 58 systems were evaluated to identify migration systems [that would continue to be used, with or without modifications] that could eliminate unnecessary duplication among individual Service systems, while increasing capabilities or that could be developed to provide Joint systems that retained Service-unique system functionalities. Twenty-three were selected as "migration systems"; of these five were evaluated specifically for Unit Move and ITO/TMO functions. The systems selected for continuation/development were to provide cost effective solutions and improve functional processes/capabilities, while simultaneously ensuring the outcome supported the DoD strategic and logistics plans. The long-range focus of the JTCC migration effort was to build toward the future to support the DoD strategic, logistics, and action plans. The methodology, analysis and results of the JTCC study were documented in an Integrated Decision Paper (IDP) for Unit Movement (1 February 1995, revised 14 April 1995) prepared by the JTCC and DISA (available for review at the JPMO).

3.1. <u>Methodology</u>. The selection of a migration system was based on functional, technical and programmatic considerations as outlined in the JTCC Methodology for Development of Integrated Decision Papers (Draft), 6 Oct 94. At the macro level this methodology was:

- Identify candidate systems
- Develop the DoD Transportation Plan
- Identify Functional, Technical and Programmatic baselines
- Collect the Data in each defined area
- Score and analyze the results
- Assess availability of Commercial Off the Shelf (COTS) products
- Develop cost analyses for various solutions

3.2. Potential Migration Systems Identified. TC-AIMS II functionality is built on five legacy systems. The JTCC methodology identified three alternative solutions for satisfying the Unit Move functional baseline. Each alternative would build around a "core" legacy system, while adding the necessary hardware/software components of the others. The candidate systems included:

- Integrated Deployment System (IDS)-based solution – built around the CMOS (Cargo Movement Operations System) and Automated Mobility Planning System (AMPS) core system, while transitioning the TC AIMS/MDSS II and TC-ACCIS unique capabilities into an IDS-based environment.
- TC-AIMS/MDSS II - based solution – which would build around the TC AIMS/MDSS II (core solution, and transitioning of the CMOS, AMPS (and TC-ACCIS) requirements, and
- TC-ACCIS-based solution – which would use TC-ACCIS system hardware/software components and a combination of IDS (CMOS/AMPS), and TC-AIMS/MDSS II functional software components.

3.3. Results. Each alternative was evaluated for functional, technical, programmatic and cost considerations. As part of this assessment, JTCC examined the cost-benefits of each alternative, while considering risk implications. Based on their assessment, the IDP recommended that a new system, named TC-AIMS II, be built around the core US Marine Corps TC-AIMS/MDSS II system. This alternative provided the optimum solution considering the factors above, including cost. Significantly, the TC-AIMS II was not intended to be a wholly new developmental program, but rather a cost-effective solution to modify/enhance/improve an existing system, while integrating the "best of breed" functionalities from other legacy systems.

4. COST AND FUNDING STATUS

TC-AIMS II has a validated Joint Cost Position and Affordability Assessment. Both were validated by the Army Cost and Analysis Center (CEAC) and subsequently by the Cost Review Board and the Office of Secretary of Defense Program Analysis and Evaluation (OSD PA&E). A comparison of program cost versus funding as of the President's FY03 Budget lock is presented in the two charts below.

TC-AIMS II Affordability

	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	POM	ToC	TOTAL
PB 03 Lock											
RDT&E Funded	13.2	10.3	7.3	7.9	12.5	12.7	17.7	18.9	100.5	0.0	100.5
RDT&E Reqmts	13.2	10.3	16.5	18.7	18.3	23.1	17.6	18.3	136.0	32.1	168.2
RDT&E Delta	0.0	(0.1)	(9.2)	(10.8)	(5.8)	(10.4)	0.1	0.6	(35.5)	(32.1)	(67.7)
OPA Funded	25.3	11.5	15.1	14.5	30.6	20.2	26.1	26.4	169.7	250.5	420.2
OPA Reqmts	25.3	11.5	17.9	16.5	30.3	28.3	26.0	23.1	178.8	338.8	517.6
OPA Delta	0.0	(0.0)	(2.8)	(2.0)	0.4	(8.1)	0.1	3.3	(9.2)	(88.3)	(97.5)
OMA Funded	7.3	7.6	7.6	7.6	10.3	9.5	24.2	24.5	98.6	271.5	370.1
OMA Reqmts	7.3	7.6	9.6	11.6	11.8	23.7	16.3	16.0	103.9	239.9	343.8
OMA Delta	0.0	0.1	(2.0)	(4.0)	(1.5)	(14.2)	7.9	8.5	(5.4)	31.6	26.3
TOTAL Funded	45.8	29.4	30.0	30.0	53.4	42.4	68.0	69.8	368.7	522.0	890.7
TOTAL Rqmts	45.8	29.4	44.0	46.9	60.3	75.2	59.9	57.4	418.8	610.9	1,029.6
TOTAL Delta	0.0	0.0	(14.0)	(16.8)	(7.0)	(32.8)	8.1	12.4	(50.1)	(88.9)	(139.0)

FY03 - 07 is PB03. FY08 – 09 is FY04 – 09 PF1.0

- Cost Review Board approval – 19 Jun 02
- Shortfalls are covered by current POM file.
- Letter of commitment from Sustaining PEG to maintain current POM funding levels.

CRB-App'd Joint Cost Position

*PB03 Funding**

	TC-AIMS II / Legacy Total									
($ Millions)	**FY 02**	**FY 03**	**FY 04**	**FY 05**	**FY 06**	**FY 07**	**FY 08**	**FY 09**	**FY02-09**	**FY 04-09**
Joint Cost Position	45.8	29.4	44.0	46.8	60.4	75.1	59.9	57.4	418.8	343.6
Funding (PB 03 Lock)	42.4	29.4	30.0	30.0	53.4	42.4	67.9	69.8	365.3	293.5
UFR	3.4	0.0	14.0	16.8	7.0	32.7	(8.0)	(12.4)	53.5	50.1
% Funded	93%	100%	68%	64%	88%	56%	113%	122%	87%	85%

	OMA									
($ Millions)	**FY 02**	**FY 03**	**FY 04**	**FY 05**	**FY 06**	**FY 07**	**FY 08**	**FY 09**	**FY02-09**	**FY 04-09**
Joint Cost Position	7.3	7.6	9.6	11.6	11.8	23.7	16.3	16.0	103.9	89.0
Funding (PB 03 Lock)	7.3	7.6	7.6	7.6	10.3	9.5	24.2	24.5	98.5	83.6
UFR	(0.0)	(0.0)	2.0	4.0	1.5	14.2	(7.9)	(8.5)	5.4	5.4
% Funded	100%	100%	79%	65%	87%	40%	148%	153%	95%	94%

	RDTE									
($ Millions)	**FY 02**	**FY 03**	**FY 04**	**FY 05**	**FY 06**	**FY 07**	**FY 08**	**FY 09**	**FY02-09**	**FY 04-09**
Joint Cost Position	13.2	10.3	16.5	18.7	18.3	23.1	17.6	18.3	136.0	112.5
Funding (PB 03 Lock)	9.8	10.3	7.3	7.9	12.5	12.7	17.7	18.9	97.0	76.9
UFR	3.4	0.0	9.2	10.8	5.8	10.4	(0.1)	(0.6)	39.0	35.6
% Funded	74%	100%	44%	42%	68%	55%	100%	103%	71%	68%

	OPA									
($ Millions)	**FY 02**	**FY 03**	**FY 04**	**FY 05**	**FY 06**	**FY 07**	**FY 08**	**FY 09**	**FY02-09**	**FY 04-09**
Joint Cost Position	25.3	11.5	17.9	16.5	30.3	28.3	26.0	23.1	178.9	142.1
Funding (PB 03 Lock)	25.3	11.5	15.1	14.5	30.6	20.2	26.1	26.4	169.7	132.9
UFR	(0.0)	0.0	2.8	2.0	(0.3)	8.1	(0.1)	(3.3)	9.2	9.2
% Funded	100%	100%	84%	88%	101%	71%	100%	114%	95%	94%

- **Blocks 1 – 2**: Affordable in POM 04-09. PM TC-AIMS II covers $3.4M RDTE shortfall in FY02.
- **Blocks 3 – 5**: Affordable in POM 04-09, given a funding increase of $70.5M in FY04-07. SS PEG has committed to funding $70.5M shortfall; currently in PF 2.0. Funding can be reduced by $20.4M in FY08-09.
- **Block 6 – 7**: Affordable, assuming PF 2.0 funding levels extend beyond FY09. Current cost position and schedule indicate Block 6 will be completed in FY10 and Block 7 will be completed in FY11.*

5. THREAT HIGHLIGHTS

The TC-AIMS II Operational Requirements Document (ORD) contains a Defense Intelligence Agency (DIA) validated threat assessment derived from the following references:

- NAIC-1574-0210-97, Information Warfare Threats to Automated Information Systems Threat Environment Description (TED)
- ONI-TA-009-97, Naval Command, Control, Communications, Computers, Navigation and IFF Systems Threat Assessment Report (STAR).

Threats to TC-AIMS II include:

- Physical damage and destruction
- Reconnaissance and Surveillance
- Computer Network Attack
- Electronic Warfare (EW)
- Directed Energy Weapons
- Nuclear Weapons and their Electromagnetic Pulse Effects
- Chemical Weapons
- Biological Weapons
- Environmental Effects

6. ACQUISITION STRATEGY

The TC-AIMS II software design will include Commercial Off The Shelf (COTS) software products, Government Off The Shelf (GOTS) software products, and developed software. TC-AIMS II software will conform to the JTA, DII/COE, and implement Shared Data Environment (SHADE). TC-AIMS II software will facilitate C2 security implementation for the TC-AIMS II system. TC-AIMS II will be developed incrementally. The initial increment, Block 1, will support basic capabilities necessary to plan, coordinate, and execute deployment or re-deployment. This capability includes support of the Chairman Joint Chiefs of Staff (CJCS) 72-hour TPFDD initiative. Follow-on software development consists of six block upgrades. Each Block is scheduled for an 18-month development period from contract award through Milestone III. Each Block upgrade will build upon the functionality and architecture fielded in previous blocks.

6.1. Acquisition and Development Approach.

- **Block 1—Basic Unit Move** capabilities provide the ability to plan, coordinate, and execute unit movements. This includes maintaining equipment and personnel databases; organizing unit equipment and personnel list for air, rail, ship, truck, or container load planning; determining transportation requirements; and interfaces with designated supply, personnel, transportation, and C2 systems. This capability also supports the CJCS requirement for a 72-hour TPFDD standard. This capability will replace the following Component unit move legacy systems:

- Transportation Coordinators'Automated Information for Movement System (TC-AIMS). This is a Marine Corps unit move planning system.
- MAGTF Deployment Support System II (MDSSII). This is the Marine Corps deployment system.
- Transportation Coordinator – Automated Command and Control Information System (TC-ACCIS). This is the Army unit move planning and movement system.

- **Block 2—Enhanced Unit Move** (2nd Qtr, FY02 through 4th Qtr, FY03) provides overall system enhancements to the basic unit movement functionality. These enhancements include Web-enablement, Text Sensitive Help, interactive calendar in date fields, additional reference data source options, and initiating print products from remote Hand Held Terminals. Block 2 provides the capability to read Common Access Cards into the system. Included are requirements deferred from the 3.01 release.

- **Block 3—Movements Control and Planning (**1st Qtr, FY04 through 3rd Qtr, FY05) provides movements control, plan sourcing, port operations visibility, Theater Reception, Staging, Onward movement and Integration (RSO&I) and multiple convoy tracking.

- **Block 4—Maritime Pre-Positioning Forces** (1st Qtr, FY06 through 3rd Qtr, FY07) provides Maritime Pre-positioning Force Management, unit dispatch, additional reports, vehicle driver ability, and pre-positioning stock management.

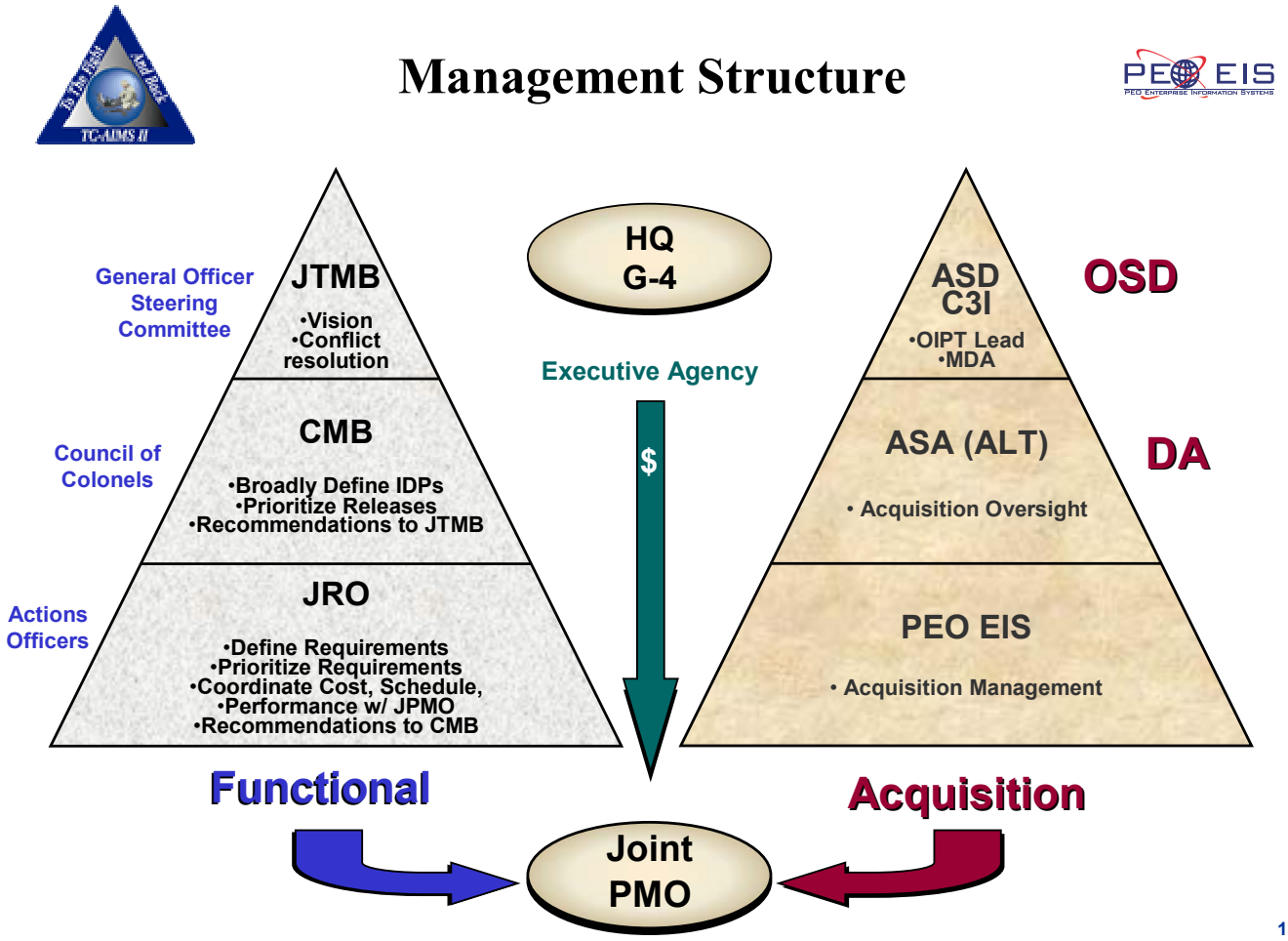
- **Block 5—Theater Operations** (1st Qtr, FY06 through 3rd Qtr, FY07) provides Theater Mode Ops and Theater Distribution. TC-AIMS II will replace the Department of the Army Movement Management System – Redesign (DAMMS-R).

- **Block 6—ITO/TMO** (1st Qtr, FY08 through 3rd Qtr, FY09) provides ITO interfaces, CONUS/OCONUS, ITO/TMO Enhancements, and TMO Interfaces. This block will replace the Air Force legacy system – Cargo Movement Operations System (CMOS) which supports Installation Transportation Office/Traffic Management Office functions.

- **Block 7—Map Graphics** (1st Qtr, FY09 through 3rd Qtr, FY10) provides Map Graphics, convoy planning and P3I capabilities still to be defined**.**

6.2. **Management Structure**. The Under Secretary of Defense for Acquisition & Technology (USD (A&T)) designated the Army as the TC-AIMS II lead service in November 1995. Within the Army, the Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASA(ALT)), provides acquisition oversight and technical direction. The Army Deputy Chief of Staff for Logistics (DCSLOG) is the TC-AIMS II functional proponent. The TC-AIMS II JPMO manages the development, testing, fielding, and initial post deployment software support. The Assistant Secretary of Defense for Command, Control, Communications and Intelligence (ASD (C3I)) chairs

the TC-AIMS II IT-OIPT and is the Milestone Decision Authority (MDA). The Deputy Under Secretary of Defense for Logistics (DUSD(L&MR)) is the OSD Principal Staff Assistant (PSA) for TC-AIMS II. The Assistant Deputy Under Secretary of Defense for Transportation Policy (ADUSD(TP)) also chairs the JTMB which provides TC-AIMS II guidance and vision. USTRANSCOM chairs the TC-AIMS II CMB that defines, prioritizes, and approves functional requirements for development and fielding. Each Component, the Joint Staff J4, USTRANSCOM, USJFCOM, PEO EIS and the TC-AIMS II JPMO provides representation to the JTMB and CMB. The USMC directs JRO efforts to define detailed functional requirements for presentation to the CMB for approval. The TC-AIMS II Project Manager reports to the PEO EIS. The JPMO will chair Working-level Integrated Product Teams (WIPT) in the areas of testing, technical, security, cost, communications, and integrated logistics support. The TC-AIMS II Project Manager will chair the Integrating IPT (IIPT). The TC-AIMS II management structure is depicted graphically in Figures 6.2.



6.3. Business Strategy. Software development was and will be contracted through existing Indefinite Delivery Indefinite Quantity (IDIQ) Task Order contractors offering software engineering or professional technical services. Current work, under the Information Technology Omnibus Procurement (ITOP) Contract sponsored by the Department of Transportation, expires in September 2002. This includes an option year for maintenance of Block 1.

6.3.1. Block 2. Block 2 software will be developed under a single Task Order awarded under the GSA Federal Supply Schedule 70, Information Technology. This will be a Time and Materials Task Order using the said GSA Schedule rates.

6.3.2. Blocks 3-7. Blocks 3-7 will be developed in 18-month increments under Task Orders similar in structure to the one described for Block 2. These Task Orders will be awarded under one of the following contract vehicles: Defense Enterprise Integration Services (DEIS), ITOP, or GSA IT Professional Services contracts.

6.3.3. Rationale. To meet 18-month Block capability delivery, the JPMO must shorten the traditional development contract award cycle. The most effective way to do that is to award Task Orders against existing contract vehicles such as those managed by GSA. For Blocks 2-7 this approach works well from a technical perspective as well. Technical risk to both the government and contractor is minimal given that the bulk of the capability is being delivered by integrating COTS/GOTS software rather than through full-scale software development. Further, by awarding new task orders for each Block, the JPMO uses competition among potential offerors to control cost and motivate the contractor to deliver the Best Value to the government.

6.4. Support Strategy.

6.4.1. Software Maintenance. Software maintenance will be limited during the Block upgrade development timeframe to repairing priority 1 and 2 problem reports. These fixes will be distributed either as part of the next scheduled Block upgrade or as an interim change package. Request for enhancements, problem reports classified as enhancements, and modifications will be referred to the JRO. After the Block upgrade development period, fixes to priority 1 and 2 problem reports will continue to be distributed as interim change packages. Priority 3, 4, and 5 problems reports and other request for system enhancements and modifications will be included in periodically scheduled system change packages based on prioritization of the CMB.

6.4.2. Hardware Maintenance. Each Component is responsible for providing maintenance support for their Service-specific hardware procured in support of TC-AIMS II in accordance with applicable Component directives.

6.4.3. Post Deployment Support. Post deployment support will be accomplished using a two-tier system. Tier 1 [Help Desk] consists of manned operations providing swift resolution to known problems stemming from customer knowledge deficits

and identified systemic problems. Customers with problems will first contact the Help Desk via phone, fax, E-mail or the TC-AIMS II Website. Problems addressed will include system login, navigation, and interpretation of screens, interoperability, and preparation and transmission of reports. The Tier I organization will educate the customer about known problems and their workarounds in the interest of reducing overall help desk calls and developing customer knowledge, and collect and report statistics pertaining to the life cycle of all TC AIMS II trouble calls. The Help Desk will use a Case-Based Reasoning System to provide support to customers and will provide direct resolution as soon as possible. This tier should resolve the majority of software, hardware and functional problems. Problems unresolvable will be elevated to Tier II in a documented Problem Report. These will typically be previously undiscovered problems related to computation, display, storage, transfer, data base synchronization / normalization, or input / output.

Tier II will be used when the Help Desk personnel are unable to provide problem resolution. Help Desk personnel will document and log in the Problem Report and then submit the Problem Report to the appropriate Tier II subject matter experts or proponent located with the developer, contractor or supplier. All inputs to the Tier II organization should come from the Tier I organization. It is likely the Tier II organization will respond to novel problems dealing with errors in computation, display, storage, transfer, database synchronization / normalization, or input / output. Problems for which no immediate solution can be found will be conveyed to the Tier I organization, which can inform the customer about how to adapt to the problem until permanent solutions can be found. Tier I and Tier II personnel will access a common Customer Resource Management (CRM) software tool to enable full accountability of a trouble call throughout its life cycle.

7. RISK ASSESSMENT AND PLANS TO REDUCE RISK

Risk associated with MSIII approval for Block 1 is minimal. As indicated earlier, the program is seeking immediate MS III approval for USN and USAREUR and the remainder of the U.S. Army pending OT&E retest and a subsequent OIPT review.

- **Cost Risk** is minimal. USAREUR is a TC-AIMS II beta site. Fielding investment is minimal. USAREUR already possesses the bulk of the hardware it requires. The USN fielding investment is also minimal. TC-AIMS II Block 1 represents a $200M development effort. Full fielding approval for the USN represents approval to purchase approximately 364 COTS laptops/servers equating to less than $1M. Although the Army has a greater hardware investment than the Navy, it is still significantly less than the development effort already incurred. Fielding for the remainder of the Army will require approximately 6,600 COTS laptops/servers and associated Automated Information Technology (AIT) equipment equating to approximately $84M which is only 42% of the value of sunk development cost. This figure is expected to be reduced further as the JPMO works with the functional representatives to revise the Basis of Issue Plan (BOIP) resulting in reduced TC-AIMS II hardware requirements.

- **Performance Risk** is minimal for Block 1 as well. As a beta site, USAREUR has successfully used TC-AIMS II since December 1998. Both USAREUR and the USN have successfully completed OT&E retest with no critical issues noted. The remainder of the Army is scheduled for OT&E retest in August 2002 and must successfully complete it prior to TC-AIMS II revisiting the OIPT for fielding approval.

- **Schedule Risk** is also minimal for Block 1. Early procurement approval was secured earlier this year and the JPMO is prepared to execute the fielding plan upon MS III approval.

8. PROGRAM ENVIRONMENTAL ANALYSIS

The principal environmental, safety, and health issues relate to TC-AIMS II hardware and peripheral devices. Each Component will be responsible for procuring its own hardware and peripheral devices that conform to DoD and Component environmental, safety, and health regulations and policies. Each Component must obtain system safety releases for the specific configurations that will be procured in support of TC-AIMS II.

9. COOPERATIVE OPPORTUNITIES

NONE Identified

10. JOINT TECHNICAL ARCHITECTURE (JTA) & JTA-A MIGRATION PLAN

Statements of Work written for the program require vendor supplied or developed products be JTA-A and DII COE compliant. Government performed independent technical tests will evaluate compliancy. The TC-AIMS II Project Office has worked closely with DISA and CIO/G6 to assure our technical architecture design complies with JTA V4.0 mandated standards and JTA-A V6.0 mandated standards, as well as the DII COE. Compliance matrices have been extracted and used as assessments for compliancy throughout system development. This has resulted in a documented Standards Profile for TC-AIMS II that addresses how the JTA has been applied in the areas of : Information Transfer Standards; Information Modeling, Metadata, and Information Exchange Standards; Information Processing Mandated Standards; Human-Computer Interface (HCI) Standards; Information Security Standards; and DII COE Compliance Standards.

Our COE self-assessment, against the I&RTS 4.1, in coordination with DISA, tells us we have reached COE Level 4 and that 94% of the issues for Level 5 compliance have been resolved. A request for a waiver to the COE Level 5 requirement has been submitted to the CIO/G6 Architecture Office, and also submitted through the PEO C3T COE Army Waiver System web site. There is no operational impact on the TC-AIMS II mission, as the approved Acquisition Program Baseline requires COE Level 4 as the threshold for the Block #1 release, and has been met. The migration strategy provides for the remaining issues with full COE Level 5 compliance at the release of the Block #2 application.

The JPMO has implemented the JTA-A migration plan for Block #1 and is reassessing and adjusting the migration plan as Block #2 requirements definition and development progress. The plan, which includes updating our Standards Profile, provides details on achieving compliancy from the application current state, and outlines the requirements and steps for attaining DII COE Level 5. The software architecture and development plan for Block #2 will address those requirements, and includes DII COE 72 item algorithm testing, I&RTS self-assessment, and formal evaluation of the software by the appropriate agencies. Formal evaluation of the software for COE compliance will occur after the program self-assessment shows resolution of the outstanding issues. The migration plan for Blocks #1 and #2 are fully funded.

11. TEST AND EVALUATION

All developmental testing for Block 1 to include component integration testing, hardware and software qualification testing was completed in accordance with the TC-AIMS II Test and Evaluation Master Plan (TEMP). IOT&E for Block 1 was conducted in 1st QTR FY02. All critical issues for USN and USAREUR, identified during IOT&E, were resolved and successfully retested in May – June 2002. No critical issues were cited in the retest. ATEC memorandum endorsing fielding to USN and USAREUR is attached in ANNEX C of this document. The remainder of the Army will be retested in August 2002. Blocks 2-7 will undergo developmental and operational testing in accordance with the TEMP.

12. SYSTEM SECURITY

Based upon successful certification testing by the U.S. Army Information Systems Engineering Command (USA ISEC) Technology Integration Center (TIC) at Fort Huachuca, the Designated Approving Authority (DAA), PEO EIS granted TC-AIMS II System Security Accreditation in April 2002.

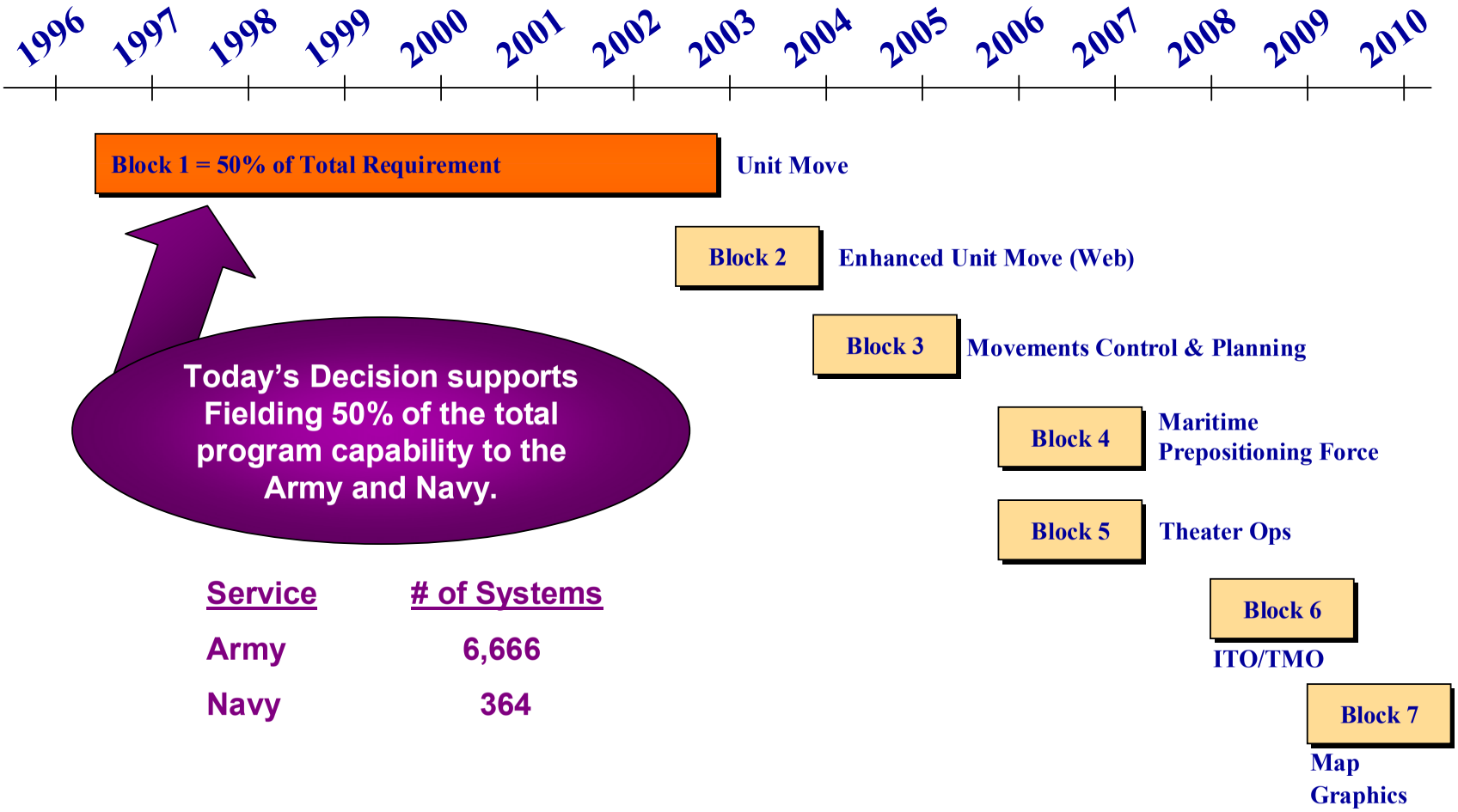
13. SUMMARY

- TC-AIMS II Block 1 is ready for fielding to USN and USAREUR. The USN is eagerly awaiting TC-AIMS II to replace its manual [paper and pencil] Unit Move process. As a beta site, USAREUR has successfully employed TC-AIMS II since 1998.
- Cost risk of MS III approval is low. USN is procuring less than $1M in hardware relative to the $200M development cost of Block 1. USAREUR procurements are minimal given that it was established as a beta site in 1998 and has already fielded the bulk of its hardware.
- JPMO has resolved USA software issues out of IOT&E. ATEC will conduct retest in August 2002.
- **Recommend:**
  - ASARC approve fielding to USAREUR and endorse fielding to USN and allow TC-AIMS II to proceed to IT/OIPT.
  - ASARC approve fielding to remainder of the Army, pending successful OT&E retest in August 2002 and subsequent IT/OIPT approval to field the remainder of the USA.
  - IT/OIPT approve immediate fielding to USN and USAREUR.

ANNEX A

PROGRAM STRUCTURE

TC-AIMS II Acquisition Structure
(Funded Across POM)



Service	# of Systems
Army	6,666
Navy	364

ANNEX B
ACQUISITION PROGRAM BASELINE
(APB)

DEPARTMENT OF THE ARMY
OFFICE OF THE PROGRAM EXECUTIVE OFFICER
STANDARD ARMY MANAGEMENT INFORMATION SYSTEMS
(PEO EIS)
9350 HALL ROAD, SUITE 142
FORT BELVOIR, VIRGINIA 22060-5526

REPLY TO
ATTENTION OF

SFAE-PS-TC

MEMORANDUM THRU PROGRAM EXECUTIVE OFFICER ENTERPRISE INFORMATION SYSTEMS, 9350 HALL ROAD, FORT BELVOIR, VA 22060-5626

FOR ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE), 6000 DEFENSE PENTAGON, WASHINGTON DC 20301-6000

SUBJECT: Transportation Coordinators - Automated Information for Movement System II (TC-AIMS II)

1. Enclosed is the TC-AIMS II Acquisition Program Baseline Document. This document has been modified from the interim Program Baseline which was reviewed and accepted by program participants, through an APB Working-level Integrated Product Team (WIPT), in May 2001, and approved by OSD (C3I) on 4 Oct 2001. Since that time, the current document has been updated with the revised ORD KPPs, the Block Upgrade development schedule, as approved by the Configuration Management Board (CMB) on 2 Aug 2001 and performance and cost parameters by Block for Software Blocks 2-7. This final draft document is presented for your approval at which time it will become the new TC-AIMS II APB.

GARY L. WINKLER
PM, TC-AIMS II

Encl
CC: DISC4

ANNEX B

PROGRAM SUMMARY

PROGRAM: Transportation Coordinators'- Automated Information for Movement Systems II (TC-AIMS II)

PROGRAM MANAGER: Mr. Gary L. Winkler

ACQUISITION OFFICE: Office of the Program Executive Officer, Enterprise Information Systems (PEO EIS)

In March 1995, the DUSD(L) recommended TC-AIMS II as the migration system for unit movement and Installation Transportation Office (ITO) capabilities based on various service legacy systems. The ASD(C3I) approved the migration strategy in July 1995. The USD(A&T) designated the USA in November 1995 as the Executive Agent for managing the integration of these legacy system functionalities. The ASD(C3I(A)) approved Program Initiation in a January 1997 Acquisition Decision Memorandum.

TC-AIMS II requirements are documented in the August 1997 Mission Need Statement (MNS) and the March 1999 Operational Requirements Document (ORD). A revised ORD is currently in the staffing process. The revisions to the ORD are not expected to impact the APB.

TC-AIMS II must be capable of:

- Processing shipment information received from CONUS, OCONUS and theater origin shipping and port systems
- Passing unit movement data to Service JOPES feeder systems
- Exchanging data with supply, finance, personnel and manpower, deploying unit and load planning systems
- Integrating with commercial carrier information systems to streamline ITO/TMO operations
- Tracking containers and pallets
- Reading and applying Automatic Identification Technology (AIT) systems data
- Interfacing with Global Transportation Network (GTN)
- Generating documentation for deploying and redeploying unit cargo and personnel, sustainment in place, and for retrograde cargo.
- Providing theater transportation management functions

TC-AIMS II is designed to support:

- Chairman, Joint Chiefs of Staff (CJCS) vision for 72-hour Time-Phased Force and Deployment Document (TPFDD)
- CJCS vision for web capable systems by FY04
- Office of the Secretary of Defense (OSD) Management Reform Memorandum #15 (MRM #15) initiative
- DoD Information Assurance standards.

TC-AIMS II develops software that integrates Commercial Off The Shelf (COTS) software products and Government Off The Shelf (GOTS) software products that will operate on DoD Component procured hardware and can communicate with interfacing systems using existing military and commercial communications infrastructure. The program will be executed in seven blocks. Block 1 (i.e. Phase 1), the initial block, will provide the initial operating capability (IOC) after a Milestone III decision in 3rd Qtr 02. The remaining six blocks will attain the objective system.

Block 1 provides the basic capabilities necessary to plan, coordinate, and execute unit deployment or re-deployment in both networked and standalone modes. Prototypes of this capability have been used at beta evaluation sites in each service; within USAREUR for movements associated with training deployments; for the USA 2d Armored Calvary Regiment re-deployment from Bosnia in 1998; for selected USA and USMC unit deployments during Foal Eagle 1999; and recently for Ulchi Focus Lens 2001. The Block 1 software architecture provides the foundation for incrementally adding new capabilities during follow on development. Follow on development will be accomplished incrementally in six blocks. Each Block is scheduled for an 18-month development period from initial competition and award decision to a fielding decision, Milestone III. Block upgrade developments will optimize the basic unit move capabilities and add additional capabilities as prioritized and approved.

The Acquisition Program Baseline is a summary document and does not provide detailed program requirements or content. This summary documents the TC-AIMS II performance, schedule and cost thresholds and objectives that form the basis for satisfying the identified mission need.

The performance and schedule threshold and objectives have been coordinated with program participants as part of the Acquisition Program Baseline Working-level Integrated Product Team. These parameters are intended to be incorporated as part of the Acquisition Program Baseline as accepted by the Acquisition Program Baseline Working-level Integrated Product Team.

Section 1. Block 1 Initial Operating Capability Unit Move Performance, Schedule and Cost Parameters

1. Block 1 Performance Parameters. Block 1 consists of the development, testing, fielding, and sustainment of the basic Unit Move capability. The initial release provides the technical architecture and functional foundation for the objective system. The performance parameters are traceable to the ORD Key Performance Parameters (KPP). The asterisked (*) items are the KPPs.

***(1). Joint Interoperability.**

The top-level Information Exchange Requirements (IER) for the initial capability will be satisfied by meeting 100% of the interface requirements identified as Threshold in Table 1. (i.e., the system must accept properly formatted data in accordance with the Systems Interface Agreement (SIAs) from those systems with an "X" in the threshold column). As capabilities are subsequently added, interoperability requirements will change thus requiring adjustments to the top-level IERs. The top-level IERs for the objective system will be satisfied by meeting 100% of the interface requirements identified as Objective in Table 1. Rationale: In order to provide the capabilities needed (i.e., accomplish transportation and deployment functions), TC-AIMS II must produce outputs in the form of electronic interfaces (to external mode clearance, cargo booking, load planning, transportation C2, TPFDD Feeder, and common user transportation systems), as well as produce standard labels, tags, forms and reports.

The Block 1 input and output criteria are defined as the ORD thresholds for each system. The ORD objective criteria apply to the total system. ORD objective criteria for data input are not applicable for Block 1. All Threshold Interface requirements are met with Block 1 software. Objective interface requirements will be met as defined by the Block and/or Individual Development Package (IDP) number indicated in the associated cell in the table. For example, AMS objective input interface will be met in IDP 8. Block 1 interfaces will be retained in follow-on development to the extent that the systems with which a subject interface is required remains in service and is not replaced or made obsolete by future TC-AIMS II or other system capabilities. The scope of these interfaces may also change during the course of follow-on development. Further, information exchanged via the interfaces described in Table 1 must be exchanged within a 24 hour timeliness requirement.

Table 1.

SYSTEM	SERVICE	DESCRIPTION	3.01 THRESHOLD PHASE I/BLOCK 1		OBJECTIVE	
			INPUT	OUTPUT	INPUT	OUTPUT
AALPS	J	Automated Air Load Planning System		X	IDP 1,9	BLOCK 1
AMS	J	Automated Manifest(ing) System			IDP 8	IDP 8
AMSS	J	Ammunition Management Standard System			IDP 8	IDP 8
ATAC-AF	N/AF	Advanced Traceability and Control				IDP 9
ATLASS-I	MC	Asset Tracking and Logistics Automated Support System I			BLOCK 1	IDP 4,8,9
CAEMS	MC	Computer Aided Embarkation Management System	X	X	BLOCK 1	BLOCK 1
CALM	J	Computer Aided Load Manifesting		X	IDP 1,8,9	BLOCK 1

ANNEX B

SYSTEM	SERVICE	DESCRIPTION	3.01 THRESHOLD PHASE I/BLOCK 1		OBJECTIVE	
			INPUT	OUTPUT	INPUT	OUTPUT
CAS-B	AF	Combat Ammunition System – Base Level			X	X
CMOS	J	Cargo Movement Operation System		X	IDP 8,9	IDP 8,9
COMPASS	A	Computerized Movement Planning and Status System	X	X	IDP 9	BLOCK 1
CSSCS	A	Combat Service Support Control System				IDP 12
DMLSS	J	Defense Medical Logistics Standard System			IDP 4	IDP 4
DSS	J	Distribution Standard System			IDP 8,9	IDP 8,9
DTTS	J	Defense Transportation Tracking System			IDP 8,9,12	IDP 8,9
EDI Transactions	J	Electronic Data Interchange (EDI) with Carriers			IDP 8,9,10	IDP 8,9,10
FACTS	J	Financial and Air Clearance Transportation System			IDP 8	IDP 8
GATES	J	Global Air Transportation Execution System		X	IDP 8,9	BLOCK 1
GCCS-A	A	Global Command and Control System – Army			X	X
GCSS-A	A	Global Combat Support System-Army			IDP 8,9	IDP 9
GCSS-AF	AF	Global Combat Support System-Air Force			X	X
GDSS	J	Global Decision Support System			IDP 12	
GFM	J	Global Freight Management System		X	IDP 8,9	BLOCK 1
GOPAX	J	Group Operational Passenger System`				IDP 8
GSA/ADNET	J	GSA / Depot Transportation Passenger System (ADNET) (Automated Distribution Network)			IDP 9	
GTN	J	Global Transportation Network		X		BLOCK 1, IDP 1,3,9,10
HEROS V	A	German Convoy Scheduler			IDP 12	IDP 12
IBS	J	Integrated Booking System		X	IDP 8,9	BLOCK 1
ICODES	J	Integrated Computerized Deployment System	X	X	BLOCK 1	BLOCK 1, IDP 2
ILSMIS	N	Integrated Logistics Support Management Information System			IDP 8	
ILS-S	AF	Integrated Logistics System – Supply			IDP 8	IDP 8
JFRG II	J	Joint Force Requirements Generator II	X	X	BLOCK 1	BLOCK 1
LOGMOD	AF	Logistics Module	X	X	BLOCK 1	BLOCK 1
MAGTF II	MC	Marine Air Ground Task Force II	X	X	BLOCK 1	BLOCK 1

SYSTEM	SERVICE	DESCRIPTION	3.01 THRESHOLD PHASE I/BLOCK 1		OBJECTIVE	
			INPUT	OUTPUT	INPUT	OUTPUT
MANPER-B	AF	Manpower & Personnel Module – Base Level	X		BLOCK 1	
MDSS II	MC	MAGTF Deployment Support System	X		BLOCK 1	
MMS	N	Material Management Standard System			IDP 8	
MOBCON	A	Mobilization Control			IDP 2	IDP 2
MPMIS	A	Military Police Management Information System			X	X
MTS	A	Military Tracking System			IDP 3	IDP 3
MTMS	A	Munitions Traffic Management System			IDP 8	X
NCFMIS	N	Naval Construction Force Management Information System			X	
NSIPS	N	Navy Standard Integrated Personnel System			IDP 2	
NIMMS	N	NADEP Inventory Material Management System			IDP 8	IDP 8
ROLMS	MC	Retail Ordnance Logistics Management System	X		BLOCK 1, IDP 8	
SBSS/ILS-S	AF	Standard Base Supply System/Integrated Logistic Supply System			IDP 8	IDP 8
SIDPERS 3	A	Standard Installation/Division Personnel System	X		BLOCK 1	
SUPMIS	N	Supply Management Information System			BLOCK 1, IDP 8	BLOCK 1, IDP 8
TC-ACCIS	A	Transportation Coordinators' Automated Command and Control Information System	X	X	BLOCK 1	BLOCK 1
TC-AIMS II	J	Transportation Coordinators' – Automated Information for Movement System II	X	X	BLOCK 1, IDP 8	BLOCK 1, IDP 8
TrAMS	A	Transportation Automated Measuring System			IDP 12	IDP 12
UDAPS(2)	N	Uniform ADP System			IDP 8,9	IDP 8,9
UD/MIPS	MC	Unit Diary/Marine Corps Integrated Personnel System	X		BLOCK 1	
WRS	MC	War Reserve System			IDP 12	
WPS	J	Worldwide Port System		X	IDP 3,9	BLOCK 1, IDP 9

***(2) AUTOMATIC IDENTIFICATION TECHNOLOGY (AIT) DEVICE INPUT –** TC-AIMS II will have the capability to receive input from AIT devices that are used to read AIT media. Capability to receive AIT input will be delivered as indicated in the *Block/IDP Capability Delivered* column of Table 2. Threshold and Objective parameters for these capabilities appear in the *Threshold* and *Objective* Columns respectively.

Table 2. AIT Device Input Parameters

Table 2. AIT Device Input Parameters				
Type	Description	Threshold	Objective	Block/IDP Capability Delivered
Linear Bar Codes	Code 3 of 9 MSL's, LOGMARS, TCN labels	Completeness: .90 Accuracy: .95 Speed: NA	Completeness: .95 Accuracy: .98 Speed: NA	BLOCK 1
2D Bar Codes	MH10.8, PDF 417 Labels	Completeness: .90 Accuracy: .95 Speed: NA	Completeness: .95 Accuracy: .98 Speed: NA	BLOCK 1
Radio Frequency ID tags	Equipment ID tags	Completeness: .85 Accuracy: .90 Speed: Ability to completely read a tag fixed to a vehicle traveling <= 25mph	Completeness: .90 Accuracy: .98 Speed: Ability to completely read a tag fixed to a vehicle traveling <= 45mph	BLOCK 1
Optical Memory (OMC) Cards	Defense Logistics Agency (DLA) AMS Cards	Completeness: N/A Accuracy: N/A Speed: N/A *Threshold parameter cannot be identified because there is no existing standard.*	Completeness: .95 Accuracy: .98 Speed: <= 1 second per card	IDP 2
COMMON ACCESS Cards		Completeness: .N/A Accuracy: N/A. Speed: N/A *Threshold parameter cannot be identified because there is no existing standard.*	Completeness: .95 Accuracy: .98 Speed: <= 1 second per card	IDP 2

Note 1. Completeness measures the thoroughness of sought information. The database must be designed such that all required information elements necessary to produce specified outputs or read defined inputs are included. This is not a measure of data quality.

Note 2. Accuracy describes the format, content, compatibility, and validity (size, class or type) consistent with the TC-AIMS II Data Dictionary. The DoD Data Model (DDM) should be used as a guideline to facilitate data compatibility and interoperability with other systems. Beyond these definitions, TC-AIMS II will not be responsible for editing faulty information.

Note 3. Speed: Some items are "Not-Applicable" since laser scan reads occur at light-speed.

Note 4. Speed for OMC cards implies both read and write times.

Note 5. TC AIMS II will facilitate the administrative processing and manifesting of passengers through the ability to read DoD standard manifest data elements from DoD standard SMART Cards.

*(3). Data Automation.

The system must be able to import, store, process, update, and export operational data volume in support of Major Theater War deployment scenarios and traffic management operations. The threshold is that TC-AIMS II provides the ability for users to accomplish job related tasks efficiently or as well as the best of breed of existing systems. The objective is for functional activities defined in this ORD to be automated in such a way as to reduce time required to perform those functions by at least 20 percent. This KPP assumes that competent and trained users, who understand how to prepare required documents, are using the system as part of their normal duties. Rationale (Operational Performance Characteristic): In order to provide the capabilities needed, TC-AIMS II must provide an automated ability for users to process data and information into decisions and execution actions to efficiently accomplish appropriate transportation and deployment tasks.

Capability delivery and associated Threshold and Objective parameters are as indicated in Table 3.

Table 3. Processing Data Parameters

Table 3. Processing Data Parameters			
Activity Description	Threshold	Objective	Delivery
Maintain unit level deployment database for unit level equipment, container & pallet, and personnel lists associated with any Battalion or Squadron Level unit.	Standalone: 75,000 cargo detail records. Single Server: 1,000,000 cargo detail records.	Standalone: 500,000 cargo detail records. Single Server: 3,000,000 cargo detail records.	BLOCK 1
Create, receive, maintain, and transmit Parent-Child deployment relationships to include use of deployment echelons. (Example: Box on a truck, pallet in container).	Standalone: 98,901 parent-child relationships. Single Server: 1,483,515 parent-child relationships.	Standalone: 197,802 parent-child relationships. Single Server: 1,978,020 parent-child relationships.	BLOCK 1

Table 3. Processing Data Parameters			
Activity Description	Threshold	Objective	Delivery
Movement Planning of cargo & personnel detail - aggregate Unit Level Databases. (Capability to merge or "rollup" unit level databases up the chain of command, assuming an average of 300 cargo line items per ULN, and 250 personnel billet line items per ULN).	Standalone: 2,500 Unit Line Numbers (ULN)s containing sourced cargo or personnel detail records matched to UTC Cargo or personnel force requirement details. Single Server: 10,000 ULNs.	Standalone: 5,000 ULN records. Single Server: 50,000 ULNs	BLOCK 1
Movement Planning: Ability to pass cargo and personnel detail data to JOPES feeder systems and GTN to report, load plan, manifest, and source ULNs of a force requirement.	Sealift ULNs: 10 C-Days worth of data Airlift ULNs: 3 C-Days worth of data. Local or CULT Ground transportation: 30 days	Sealift ULNs: 30 C-Days Airlift ULNs: 7 C-Days Local or CULT ground transportation: 60 days	BLOCK 1
Ship Load Planning and Manifesting. Ability to store and process cargo data details for export to ship load planning systems in support of port operations and embarkation. (Based on a typical LHA or FSS shipload plan).	Cargo detail data for 5 ships at a single terminal or water port during a 72-hour period.	Cargo detail data for 10 ships at a single terminal or water port during a 72-hour period.	BLOCK 1
Aircraft Load Planning and Manifesting. (Based on a typical C-141 aircraft load plan).	Cargo & Personnel detail data for 50 aircraft sorties processed at a single air terminal during a 24-hour day.	Cargo & Personnel detail data for 100 aircraft sorties processed through a single air terminal during a 24- hour day.	BLOCK 1

Table 3. Processing Data Parameters			
Activity Description	Threshold	Objective	Delivery
Rail Load Planning (Based on a 100 car train).	Cargo detail data for 25,000 shipment units.	Cargo detail data for 60,000 shipment units.	BLOCK 1
Surface & ground transportation modes. Receive or Prepare, generate, and transmit Bills of Lading (GBLs/CBLs), /Transportation Discrepancy Reports(TDRs), or Transportation Control Movement Documents (TCMDs) per 24-hour day.	GBLs: s 500 TCMDs: 1,000 TDRs0	GBLs & CBLs: 1,000 TCMDs: 5,000 TDRs: 100	IDP 2 – CBL IDP 9 - TDRs
Convoy Movement Requests (based on a 25-vehicle convoy).	25 per day	50 per day	BLOCK 1
Ad Hoc Queries. A trained user can extract a simple query; e.g., determine equipment density for a given unit, or prepare a list of GBLs for moving equipment to a given port.	45 minutes to formulate the query and obtain correct results.	25 minutes to formulate the query and obtain correct results.	BLOCK 1
Standard Reports.	20 minutes	10 minutes	BLOCK 1

*(4). Report Generation.

TC-AIMS II must properly generate reports, forms, labels, tag data, Optical Memory Card (OMC) or Common Access Card (CAC) data as listed in Table 4 below. Rationale: In order to provide the capabilities needed, TC-AIMS II must provide an automated ability for users to process data and information into decisions and execution actions to efficiently accomplish appropriate transportation and deployment tasks. By "properly" this means that correct data is placed in the appropriate fields, that text is readable by humans, or that bar-codes, cards, or tags are readable by appropriate TC-AIMS II AIT devices. The standards below assume that a

printer, RFID tag read/write device, and OMC /CAC read/write device(s) are directly connected to a workstation hosting its own TC-AIMS II database. Also see Rationale for *(1). Joint Interoperability above.

Table 4 details in which Block and/or IDP specific output type capabilities are delivered and the associated Threshold and Objective parameters.

Table 4. Output Descriptions

Table 4. Output Descriptions.				
Output Type	Description	Threshold	Objective	Delivery
Reports	Ad Hoc or Standard (pre-formatted)	Completeness: .95 Accuracy: .95 Speed: <= 1 min per page	Completeness: .98 Accuracy: .98 Speed: <= 30 sec per page	BLOCK 1
Standard Forms	DD, SF, NAVMC, AF, AE and other paper outputs	Completeness: .95 Accuracy: .95 Speed: <= 1 min per page	Completeness: .98 Accuracy: .98 Speed: <= 30 sec per page	BLOCK 1
Labels	LOGMARS, Military Shipping Labels, Equipment ID labels	Completeness: .95 Accuracy: .95 Speed: <= 30 seconds per label Durability:	Completeness: .98 Accuracy: .98 Speed: <= 10 seconds per label Durability:	BLOCK 1
Radio Frequency Tags (write data)	256 Kb or larger capacity	Completeness: .875 Accuracy: .875 Speed: <= 1 min per tag	Completeness: .90 Accuracy: .90 Speed: <= 30 seconds per tag	BLOCK 1
OMC Cards		Completeness: . Accuracy: . Speed: <= seconds per card	Completeness: .98 Accuracy: .98 Speed: <= 10 seconds per card	IDP 2
Common Access Cards (CAC)		Completeness: . Accuracy: . Speed: NA	Completeness: .98 Accuracy: .98 Speed: <= 30 seconds per card	IDP 2

(5) OTHER BLOCK 1 DESIGN CONSIDERATIONS. Table 5

PARAMETER	THRESHOLD	OBJECTIVE
Conform with Defense Information Infrastructure (DII) Common Operating Environment as defined in the Joint Technical Architecture	DII/COE Level 4	DII/COE Level 6
Process unclassified, sensitive data	C2 security as defined by DoD 5000.28	C2 security as defined by DoD 5000.28

Table 6 Key Performance Parameter (KPP) Summary

Key Performance Parameter	Threshold	Objective
Automatic Identification Technology The system must have a capability to receive input from peripheral Automatic Identification Technology devices capable of reading from the AIT media listed in Table 2.	The threshold values are stated in Table 2.	The objective values are stated in Table 2.
Data Automation The system must be able to import, store, process, update, and export operational data volume in support of Major Theater War deployment scenarios and traffic management operations.	TC-AIMS II provides the ability for users to accomplish job-related tasks efficiently or as well as the best of breed of existing systems.	Functional activities defined in this ORD will be automated in such a way as to reduce time required to perform those functions by at least 20 percent.
Report Generation TC-AIMS II must properly generate reports, forms, labels, tag data, OMC or SMART card data as listed in Table 4.	TC-AIMS II generates information as required meeting a 95 % completeness and accuracy standard (i.e., meets the standards listed in Table 4.).	TC-AIMS II generates information as required meeting a 98 % completeness and accuracy standard (i.e., meets the standards listed in Table 4.).
Joint Interoperability All top level IERs will be satisfied to the standards specified in the Threshold (T) and Objective (O) values.	100% of top-level IERs in Table 1 designated as threshold will be achieved.	100% of all top-level IERs in Table 1 designated as objective will be achieved.

2. BLOCK 1 SCHEDULE

EVENT	START DATE	END DATE
Block 1 Development	2d QTR FY98	4th QTR FY01
Operational test & evaluation	4th QTR FY01	2nd QTR FY02
Fielding Decision Review		3rd QTR FY02
Fielding Block 1	4th QTR FY02	4th QTR FY07

3. BLOCK 1 COST. Cost parameters are for FY1996 through FY2020. The parameters are based on the Program Life Cycle Cost Estimate. Each of these cost elements contains variables that can cause significant cost fluctuations when one or more of the variables change. The values are expressed in FY02 constant dollars.

	Constant FY02 $ in K's	
Block 1	**Objective**	**Threshold**
RDT&E*	**$34,468**	**$37,915**
Procurement		
USA	$5,247	$5,772
USAF	$403	$443
USMC	$0	$0
USN	$956	$1,052
Total Phase I Procurement	**$6,606**	**$7,267**
Acquisition O&M		
USA*	$167,709	$184,480
USAF	$0	$0
USMC	$0	$0
USN	$0	$0
Total Phase I Acquisition O&M	**$167,709**	**$184,480**
Total Phase I Acquisition Cost-- (RDT&E + Procurement + Acquisition O&M)	**$208,783**	**$229,661**
Operations & Support		
USA	$2,972	$3,269
USAF	$600	$660
USMC	$0	$0
USN	$0	$0
Total Phase I Operations & Support	**$3,572**	**$3,929**
Total Phase I Life Cycle Cost	**$212,355**	**$233,591**

*System Development Costs from FY96-FY00 were funded with Army O&M Dollars
Starting in FY01 all System Development Costs are funded with RDT&E Dollars

Section 2 - Block Upgrades – Incremental Development Performance, Schedule, and Cost Parameters

1. Block Upgrades. Block upgrade incremental development builds on the technical architecture and functional foundation of the Block 1 developed system. Software will be developed in Block Upgrades as designed and prioritized by the Joint Requirements Office and approved by the TC-AIMS II Configuration Management Board. Two or more IDPs will be combined into each of six blocks, scheduled for an 18-month development period. Included below is an overall schedule of development. These are high level dates and will be further defined as individual blocks are planned for development. Testing events, milestone reviews, and fielding dates will be established prior to starting development on a specific block. Updates will be made to this APB as necessary**.**

EVENT	START DATE	END DATE
Define and prioritize IDPs	1st QTR FY00	4th QTR FY 01
Develop & Test Block 2, (IDPs 0,1)	2nd QTR FY 02	4th QTR FY 03
Develop & Test Block 3, (IDPs 2,3)	1st QTR FY 04	3rd QTR FY 05
Develop & Test Block 4, (IDPs 4,5)	1st QTR FY 06	3rd QTR FY 07
Develop & Test Block 5, (IDPs 6,7)	1st QTR FY 06	3rd QTR FY 07
Develop & Test Block 6, (IDPs 8,9,10)	1st QTR FY 08	3rd QTR FY 09
Develop & Test Block 7, (IDPs 11,12)	1st QTR FY 09	3rd QTR FY 10
Block Upgrade Fielding	4th QTR FY 03	3rd QTR FY 11

2. Block 2 Performance, Schedule and Cost Parameters

1. **Performance Parameters:** The KPP's defined in the ORD do not map very distinctly to Block capability delivery. The performance parameters listed for Block 2 were derived by pulling the JRO requirements for IDP's 0 and 1 that can be measured by a global KPP stated in the approved ORD.

   JRO 2169 In-Transit Visibility Data to GTN / KPP Reports Generation: TC-AIMS II will automatically send the following reports to GTN:
   - Installation Situation Report (ISR)
   - Air Passenger Manifest
   - Air Cargo Manifest
   - Surface Passenger Manifest
   - Surface Cargo Manifest

   JRO 2142 Interface CALM / KPP Joint Interoperability: TC-AIMS II must interface with Computer Aided Load Manifesting (CALM) until AALPS is fully fielded

   JRO 1205 Interface-AALPS / KPP Joint Interoperability: TC-AIMS II must interface with Automated Air Load Planning System (AALPS) is fully fielded

   JRO 1255 Receive and Process PAX / KPP Automatic Identification Technology: TC-AIMS II must have capability to use AIT to:

- Verify Manifests
- Create Manifests
- Control procedures for boarding and disembarking
- Track location of personnel as they move through nodes

2. Schedule

	Objective	**Threshold**
Contract Award	2nd QTR FY02	3rd QTR FY02
Development and Test	2nd QTR FY02 to 4th QTR FY03	3rd QTR FY02 to 1st QTR FY04
Milestone III Decision	4th QTR FY 03	1st QTR FY04

3. Cost

	Constant FY02 $ in K's	
Block 2	**Objective**	**Threshold**
RDT&E	**$14,202**	**$15,622**
Procurement		
USA	$11,453	$12,598
USAF	$1,993	$2,192
USMC	$906	$997
USN	$376	$414
Total Block 2 Procurement	**$14,728**	**$16,201**
Acquisition O&M		
USA	$23,658	$26,024
USAF	$3,384	$3,722
USMC	$4,813	$5,294
USN	$579	$637
Total Block 2 Acquisition O&M	**$32,434**	**$35,677**
Total Block 2 Acquisition Cost (RDT&E + Procurement + Acquisition O&M)	**$61,364**	**$67,500**
Operations & Support		
USA	$29,297	$32,227
USAF	$5,648	$6,213
USMC	$2,523	$2,775
USN	$982	$1,080
Total Block 2 Operations & Support	**$38,450**	**$42,295**
Total Block 2 Life Cycle Cost	**$99,814**	**$109,795**

3. Block 3-7 Performance, Schedule and Cost Parameters

4. **Performance Parameters:** Performance parameters for Blocks 3-7 will be derived prior to each Milestone III review in the same fashion as they were for Block 2.

5. **Schedule**

Block 3	**Objective**	**Threshold**
Contract Award Development and Test Milestone III Decision	1st QTR FY04 1st QTR FY04 – 3rd QTR FY05 3rd QTR FY05	2nd QTR FY04 2nd QTR FY04– 4th QTR FY05 4th QTR FY05
Block 4		
Contract Award Development and Test Milestone III Decision	1st QTR FY06 1st QTR FY06 – 3rd QTR FY07 3rd QTR FY07	2nd QTR FY06 2nd QTR FY06- 4th QTR FY07 4th QTR FY07
Block 5		
Contract Award Development and Test Milestone III Decision	1st QTR FY06 1st QTR FY06 – 3rd QTR FY07 3rd QTR FY07	2nd QTR FY06 2nd QTR FY06- 4th QTR FY07 4th QTR FY07
Block 6		
Contract Award Development and Test Milestone III Decision	1st QTR FY08 1st QTR FY08– 3rd QTR FY09 3rd QTR FY09	2nd QTR FY08 2nd QTR FY08- 4th QTR FY09 4th QTR FY09
Block 7		
Contract Award Development and Test Milestone III Decision	1st QTR FY09 1st QTR FY09 – 3rd QTR FY10 3rd QTR FY10	2nd QTR FY09 2nd QTR FY09- 4th QTR FY10 4th QTR FY10

6. Cost

	Constant FY02 $ in K's	
Block 3	**Objective**	**Threshold**
RDT&E	**$36,070**	**$39,677**
Procurement		
USA	$23,776	$26,154
USAF	$4,137	$4,551
USMC	$1,881	$2,069
USN	$781	$859
Total Block 3 Procurement	**$30,575**	**$33,633**
Acquisition O&M		
USA	$49,113	$54,024
USAF	$7,024	$7,726
USMC	$9,992	$10,991
USN	$1,202	$1,322
Total Block 3 Acquisition O&M	**$67,331**	**$74,064**
Total Block 3 Acquisition Cost (RDT&E + Procurement + Acquisition O&M)	**$133,976**	**$147,374**
Operations & Support		
USA	$74,405	$81,846
USAF	$14,344	$15,778
USMC	$6,409	$7,050
USN	$2,494	$2,743
Total Block 3 Operations & Support	**$97,652**	**$107,417**
Total Block 3 Life Cycle Cost	**$231,628**	**$254,791**

	Constant FY02 $ in K's	
Block 4	**Objective**	**Threshold**
RDT&E	**$44,411**	**$48,852**
Procurement		
USA	$16,768	$18,445
USAF	$2,918	$3,210
USMC	$1,327	$1,460
USN	$551	$606
Total Block 4 Procurement	**$21,564**	**$23,720**
Acquisition O&M		
USA	$34,637	$38,101
USAF	$4,954	$5,449
USMC	$7,047	$7,752
USN	$848	$933
Total Block 4 Acquisition O&M	**$47,486**	**$52,235**
Total Block 4 Acquisition Cost (RDT&E + Procurement + Acquisition O&M)	**$113,461**	**$124,807**
Operations & Support		
USA	$91,612	$100,773
USAF	$17,661	$19,427
USMC	$7,891	$8,680
USN	$3,070	$3,377
Total Block 4 Operations & Support	**$120,234**	**$132,257**
Total Block 4 Life Cycle Cost	**$233,695**	**$257,065**

	Constant FY02 $ in K's	
Block 5	**Objective**	**Threshold**
RDT&E	**$36,070**	**$39,677**
Procurement		
USA	$19,191	$21,110
USAF	$3,340	$3,674
USMC	$1,519	$1,671
USN	$630	$693
Total Block 5 Procurement	**$24,680**	**$27,148**
Acquisition O&M		
USA	$39,643	$43,607
USAF	$5,670	$6,237
USMC	$8,065	$8,872
USN	$970	$1,067
Total Block 5 Acquisition O&M	**$54,348**	**$59,783**
Total Block 5 Acquisition Cost (RDT&E + Procurement + Acquisition O&M)	**$115,098**	**$126,608**
Operations & Support		
USA	$74,405	$81,846
USAF	$14,344	$15,778
USMC	$6,409	$7,050
USN	$2,494	$2,743
Total Block 5 Operations & Support	**$97,652**	**$107,417**
Total Block 5 Life Cycle Cost	**$212,750**	**$234,025**

	Constant FY02 $ in K's	
Block 6	**Objective**	**Threshold**
RDT&E	**$36,070**	**$39,677**
Procurement		
USA	$39,607	$43,568
USAF	$6,892	$7,581
USMC	$3,134	$3,447
USN	$1,300	$1,430
Total Block 6 Procurement	**$50,933**	**$56,026**
Acquisition O&M		
USA	$81,815	$89,997
USAF	$11,701	$12,871
USMC	$16,646	$18,311
USN	$2,002	$2,202
Total Block 6 Acquisition O&M	**$112,164**	**$123,380**
Total Block 6 Acquisition Cost (RDT&E + Procurement + Acquisition O&M)	**$199,167**	**$219,084**
Operations & Support		
USA	$74,405	$81,846
USAF	$14,344	$15,778
USMC	$6,409	$7,050
USN	$2,494	$2,743
Total Block 6 Operations & Support	**$97,652**	**$107,417**
Total Block 6 Life Cycle Cost	**$296,819**	**$326,501**

	Constant FY02 $ in K's	
Block 7	**Objective**	**Threshold**
RDT&E	**$36,070**	**$39,677**
Procurement		
USA	$23,689	$26,058
USAF	$4,122	$4,534
USMC	$1,874	$2,061
USN	$778	$856
Total Block 7 Procurement	**$30,463**	**$33,509**
Acquisition O&M		
USA	$48,934	$53,827
USAF	$6,998	$7,698
USMC	$9,956	$10,952
USN	$1,197	$1,317
Total Block 7 Acquisition O&M	**$67,085**	**$73,794**
Total Block 7 Acquisition Cost (RDT&E + Procurement + Acquisition O&M)	**$133,618**	**$146,980**
Operations & Support		
USA	$74,405	$81,846
USAF	$14,344	$15,778
USMC	$6,409	$7,050
USN	$2,494	$2,743
Total Block 7 Operations & Support	**$97,652**	**$107,417**
Total Block 7 Life Cycle Cost	**$231,270**	**$254,397**

Sec. 3 Total Program Execution

1. **Total Program Execution.** The Total Life Cycle Cost for TC-AIMS II spans FY96-FY18. The costs are detailed in the table below.

	Constant FY02 $ in K's	
Total LCC	**Objective**	**Threshold**
RDT&E*	**$237,361**	**$261,097**
Procurement		
USA	$139,731	$153,704
USAF	$23,805	$26,186
USMC	$10,641	$11,705
USN	$5,372	$5,909
Total Procurement	**$179,549**	**$197,504**
Acquisition O&M		
USA	$445,509	$490,060
USAF	$39,731	$43,704
USMC	$56,519	$62,171
USN	$6,798	$7,478
Total Acquisition O&M	**$548,557**	**$603,413**
Total Acquisition Cost-- (RDT&E + Procurement + Acquisition O&M)	**$965,467**	**$1,062,014**
Operations & Support		
USA	$421,501	$463,651
USAF	$81,285	$89,414
USMC	$36,050	$39,655
USN	$14,028	$15,431
Total Operations & Support	**$552,864**	**$608,150**
Total Life Cycle Cost	**$1,518,331**	**$1,670,164**

*System Development Costs from FY96-FY00 were funded with Army O&M Dollars
Starting in FY01 all System Development Costs are funded with RDT&E Dollars
Thus, all but 1 year of Block 1 Development Costs were funded with Army O&M Dollars
This is why the sum of Block 2-7 RDT&E Costs are greater than the RDT&E Costs for Phase I even though the number of total function points is equivalent

FOOTNOTES:

1. Phase 1 is sunk costs from FY96-01.
2. Phase 1 RDTE is FY01 only. The other years (FY96-FY00) are reflected in Acquisition O&M (USA).
3. Strategy for Blocks 2 through 7 RDTE and Opn and Support: using the IPR function points for each block and divide intothe total function points to derive a percentage. Multiply that percentage with the total RDTE (or O&S) to get the cost for that block. This was done for each service in both categories.
4. Strategy for Blocks 2 through 7 Procurement & Acquisition: using our OPA requirements spreadsheet for each block and divide into the total OPA requirements to derive a percentage. Multiply that percentage with the total Procurement (or Acquisition) to get the cost for that block. This was done for each service in these categories.
5. All numbers on this spreadsheet represent the Draft Joint Cost Position as of 12 Jun 02.

ANNEX B

APPENDIX

APPENDIX A
OPERATIONAL CAPABILITES BY PROGRAM PHASE

The following are key TC-AIMS II capabilities extracted from the March 1999 approved ORD. The capabilites are allocated to a program phase for implementation. Key performace parameters and other perfromnace parameters contained in the APB performance section for each phase are not included in these tables.

TABLE 1 - BLOCK 1 CAPABILITIES
Provide a capability for routine deployment, sustainment, and redeployment/retrograde operations by employing the same policies and procedures in peace and war and in both the active and reserve forces.
Furnish timely unit move information to major commands (MAJCOMs/MACOMs), transportation component commands, USTRANSCOM, and the Joint Deployment Community.
Provide data for in-transit visibility (ITV) and control over cargo and passenger movement.
Automates the process of planning, organizing, coordinating, and controlling unit-related deployments and re-deployment to meet CINC required force closure dates
TC-AIMS II must support preparation, processing, and documentation commensurate with the volume transportation movement information at the task organization level
Provide movement planning processes for matching TPFDD cargo & personnel detail with actual unit deployment lists
Provide capability to organize unit and organizational deployment list data into aircraft, ship, rail (including CINC-specific rail car data), truck, and container load planning data, such as air cargo chalks, or ship team assignments.
For rail and truck movements, it will be the automated tool to assist load planners in developing actual load plans.
Provide an automated ability for users to process data and information into decisions and execution actions to accomplish appropriate transportation and deployment tasks.
TC-AIMS II must produce outputs in the form of electronic interfaces (to external mode clearance, cargo booking, load planning, transportation command & control, TPFDD Feeder, and common use transportation systems), as well as produce standard labels, tags, forms, and reports used to accomplish transportation and deployment functions.

TABLE 2 – BLOCK 1I CAPABILITES	Associated IDPs
Allow units, deployment support activities, movement control & coordination organizations to manage, control, and direct organic and common user transportation assets.	**5,7,8,9,10,12**
Provide a process to match TPFDD cargo and personnel detail data with convoy movement data, organic equipment availability reports, and DTS cargo movement procedures	**2,3,9**
Facilitate the administrative processing and manifesting of passengers through the ability to read DoD standard manifest data elements from DoD standard SMART Cards.	**1,2,8,9**
Capable of supporting routine and surge requirements and must automate origin shipping/receiving and deployment; sustainment and redeployment/retrograde processes;	**6,7,8,9,10**
Provide processes for planning, organizing, controlling, and coordinating day-to-day Installation Transportation Officer/Transportation Management Officer (ITO/TMO) operations.	**8,9,10**
Provide processes for planning, organizing, controlling, and coordinating sustainment and retrograde operations in support of the Defense Transportation System (DTS).	**6,7,8,9,10**

TABLE 2 – BLOCK 1I CAPABILITES	Associated IDPs
Provide transportation managers the capabilities to effectively utilize theater common lift assets.	**3,5,7**
Provide combat service support organizations and supporting commands abilities to perform effective movement control and coordination, distribution, and sustainment activities; both enroute and in theater.	**3,6,7,8,9,10**
Provide traffic management functions or theater distribution as defined by DTS procedures for cargo and personnel movement.	**7,8,9,10**
Capability to import, store, process, update, and export operational data volume in support of Major Theater War deployment scenarios and traffic management operations.	**2,8,9,10**

APPENDIX B
Incremental Development Packages Descriptions

NOTE: This is the recommended JRO priority sequence for IDP development.

Block 2:

IDP 0 - System

Provides enhancements to the overall system. These enhancements include "Text sensitive Help", interactive calendar in date fields, additional reference data source options, and initiating print products from remote Hand Held Terminals. Requirements in this IDP will be included throughout the application developed.

IPD 1 – 3.01 Deferrals

Provides capability to read Common Access Cards into the system. Included in this IDP are requirements deferred from the 3.01 release, new regulatory requirements, and approved enhancements to the software.

Block 3:

IDP 2 – Plan Sourcing

Enhances the capability to create and source Unit Movement plans. Adds interfaces to update unit equipment operational status from Services maintenance systems. This IDP will also provide additional reports generating capability.

IDP 3- Movements Control

Provides the ability to conduct initial RSO&I in a Theater of Operations. Provides an initial capability for port operator's to gain visibility of inbound units and cargo; and for a Movements Control Center to task available assets, and schedule, manage, and track multiple convoy movements. Full RSO&I capability will be attained by implementing IDP 6 and IDP 7.

Block 4:

IDP 4- Maritime Pre-positioning

IDP 4 provides capability to manage Maritime Prepositioning Force (MPF) assets. Provides capability to support loading, management of cargo onboard, and unloading of MPF vessels. This IDP will principally support USMC/USN requirements; however, Army and Air Force could adapt portions of this capability to manage and report prepo stocks.

IDP 5 -Unit Dispatch

Provides capability to maintain and report unit vehicle fleet and driver availability/status, receive equipment support tasks, dispatch vehicles and drivers and, produce associated documentation.

Block 5:

IDP 6 - Theater Mode Operations

Provide Theater Mode Operations management capability in the TC-AIMS II application.

IDP 7 - Theater Distribution

IDP 7 will provide a Theater Distribution management capability in the TC-AIMS II application.

Block 6:

IDP 8- ITO Interfaces

IDP 8 identifies system interfaces to support ITO business processes. These require a long lead-time to develop and document Interface Agreements with external interfacing systems.

IDP 9- ITO Business Processes

IDP 9 provides (DoD) installation transportation offices, both in CONUS and OCONUS, capability to receive, create, maintain, and transmit data to control, document, and manage assets moving in the DoD transportation system. Provides capability to coordinate transportation services, move passengers, procure commercial carrier support, capture historical shipment information, prepare shipment documentation, and track funds for movement of freight. This IDP includes MRM 15 initiatives.

IDP 10- ITO Enhancements

IDP 10 provides enhancements to ITO business processes.

Block 7:

IDP 11 - Map Graphics

IDP 11 enhances convoy planning through the use of digitized maps and map graphics.

IDP 12 -P3I

IDP 12 includes the remaining JRO requirements the Services representatives deferred to a TC-AIMS II Pre-planned Product Improvement (P3I) category.

ANNEX C
ASSESSMENT MEMORANDA

Date: AUG 7 1997

VALIDATION APPROVAL

OF

MISSION NEED STATEMENT (MNS)

FOR

TRANSPORTATION COORDINATORS' AUTOMATED INFORMATION FOR MOVEMENTS SYSTEM (TC-AIMS II)

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TRANSPORTATION COORDINATORS' AUTOMATED INFORMATION FOR MOVEMENTS SYSTEM II (TC-AIMS II) MISSION NEED STATEMENT

1.0 MISSION AREA AND DEFENSE GUIDANCE

Defense Planning Guidance Element. TC-AIMS II is within the Department of Defense (DoD) mission areas of mobility and sustainment. This is defined as transportation movement and support of DoD personnel and cargo during all phases of military operations in all environments, including reception, staging, onward movement and integration (RSOI), and battlefield operations. As a joint information management system, TC-AIMS II focus within the broad area of mobility is the communications, information, and automated processes needed by: units which are deploying; units/activities which are assisting in the deployment; units/activities which support daily movement missions as part of the Defense Transportation System (DTS); and command and control (C2) headquarters which support the deployment and employment of forces from every Service. TC-AIMS II focus includes daily transportation management, traffic management, commercial carrier interfaces, movement control and mode operations in garrison and at depots, consolidation activities, and transshipment locations.

2.0 MISSION ENVIRONMENT

2.1 Mission Need

TC-AIMS II is a top-down directed program that must address critical shortfalls in moving cargo and people in support of the DoD mission. This system must support the FY87 Joint Chiefs of Staff (JCS) direction and the FY89 defense guidance that provided a requirement for an automated capability to provide timely and accurate passenger/cargo movement information during force deployments. Further, system development and implementation must be consistent with FY95-99 defense guidance that called for support systems to provide "rapid strategic mobility and sufficient support and sustainment capabilities."

TC-AIMS II must provide an integrated information transportation system capability for routine deployment, sustainment, and redeployment/retrograde operations by employing the same DoD and Service shipment policies and procedures in peace and war and in both the active and reserve forces. This system must be integrated with installation, unit, and depot-level supply systems to manage inbound and outbound movement (less Household Goods (HHG)) document and requisition information. TC-AIMS II must be capable of supporting routine and surge requirements and must automate origin shipping/receiving and deployment; sustainment and redeployment/retrograde processes; produce movement documentation, unit move data; and furnish timely information to major commands (MAJCOMs/MACOMS), transportation component commands, USTRANSCOM, and the joint deployment community. As a DoD source movement information system, TC-AIMS II must provide data for in-transit visibility (ITV) and control over cargo and passenger movement.

2.2 Relation of Mission Need

The Secretary of Defense directed the system to satisfy these mission needs be fielded by Mar 97. Beyond that requirement, there is an urgent need to field a system that meets these needs in order for the DTS to be able to efficiently support unit movements and sustainment actions in support of US policy to react to crises or conflicts with CONUS-based components supported by Maritime Prepositioning Force/Afloat Prepositioning Force Assets. This has given additional emphasis to joint operations and composite force concepts.

Current systems fielded in the individual DoD Components cannot support such deployments with any degree of efficiency. Individual DoD Component systems support their DoD Component's needs satisfactorily, but they cannot adequately support joint or composite operations. It is imperative that these mission needs be satisfied in conjunction with the actions being taken in the operational systems arena so the transportation system that deploys and supports them is readily available. This requirement is essential to complying with stated US policy.

2.3 Threat Analysis

2.3.1 Threats to be Countered.

a. Information Processing Capability Must Keep Pace with the Operational Tempo (OPTEMPO). The volume of data which must be extracted, updated, processed into information, and transmitted among several organizations cannot be handled in a non-automated environment near-real time within the time frame necessary for effective operations. The current workforce needs an integrated information management capability to assist them in meeting information processing time standards.

b. Information Must be Available to Support Decisions or Generate Events. To accomplish movements in the Defense Transportation System (DTS) and support force projection, information must be communicated among a variety of units and activities/commands. The volume of information required and the number of recipients who must have access to the information cannot be supported in a manual or sequential information transfer methodology. Information, entered once, must be made available through immediate remote access by a variety of organizations using several communication methodologies. The information which is transmitted must be presented in a format which permits ease in processing by the recipient. The information transmitted/received must be protected from unauthorized disclosure.

c. Information Must be Reliable or It Will Not be Used. Erroneous information has no value. Correct information is needed to deploy the force, coordinate daily transport operations, and control battlefield movement. The threat factors to reliable information must be countered. These threat factors include: delays in processing, transmitting and receiving information; trustworthiness of processes which generate the information; unauthorized alteration or destruction of information; and erroneous information entering the system through human error.

2.3.2 Threat Environment. This information management need must be met under a variety of threat environments. The two extreme environments are described below:

a. Reliable communications and power are permanently available. These locations have access to reliable commercial communications networks and hardened DoD-sponsored networks. Wireless modems and wireless local area networks (LANs) can be used with ease. Commercial power sources are available.

b. Bring-your-own communications or power. These locations have limited or unreliable communications infrastructure and may lack access to reliable power sources. In this environment, information management must be supported by common user tactical systems and reliable access to out-of-sector communications networks or wireless solutions, including satellite communications (SATCOM). Power sources should include locally generated electricity, vehicle battery power, or computer batteries.

2.4 Concept of Operations

All DoD deployment managers and Installation Transportation Officers/ Transportation Management Officers (ITO/TMOs) will process transportation requirements that support day-to-day operations, operations other than war, and war utilizing the automated information system (AIS) capabilities of TC-AIMS II. Depending on responsibilities and functions required at the specific location, the deployment managers and ITO/TMO will access the required functionality in TC-AIMS II, input/output appropriate data, and use the system to perform processes appropriate for the event or events at the installation or deployed location. TC-AIMS II will have internal capabilities to accomplish rail load planning and rail car stow planning. In addition, TC-AIMS II will be fully integrated with installation/origin-level supply, finance, applicable maintenance systems, logistics plans, personnel and manpower, unit move, and air and ship load planning systems. TC-AIMS II will be vertically integrated with air and ocean port systems, service deployment planning systems, and other key DTS systems. TC-AIMS II also will provide the traffic management capabilities required by air and ocean port operations and will interface with functions external to transportation to include financial management and logistics systems.

2.5 Procedures

TC-AIMS II will accomplish installation or theater level transportation functions required to fulfill order replenishment and deployment actions. The ongoing actions of the United States Transportation Command (USTRANSCOM) Joint Transportation Corporate Information Management (CIM) Center (JTCC) to develop a standard Transportation Logical Data Model (TLDM) will be incorporated into TC-AIMS II and adherence to the Global Combat Support System Defense Information Infrastructure Common Operating Environment (GCSS DII COE) will enable TC-AIMS II to incorporate future process improvements.

TC-AIMS II will support all current processes and future continuous process improvements. It will support those processes more efficiently by accomplishing them on a

single integrated system that is capable of handling all DOD unit /installation/theater transportation requirements, both in peace and war.

TC-AIMS II will need to interface with a number of other functional area automated information systems (AISs) in order to accomplish its mission and to support other functional area requirements. Interfaces with supply, financial management, and command and control systems are three examples of cross-functional interface requirements. In addition, the system will need to be able to interface with Allies and NATO transportation management systems when operating in a deployed mode.

2.6 Capabilities

TC-AIMS II will embody all the current capabilities of the existing DOD Components' multiple systems on an integrated AIS platform that is capable of operating in garrison or in deployed mode. The system will support onward movement of the unit or return to home installation and will also support day-to-day transportation management operations at the deployed location.

DOD has long recognized the need for a transportation management AIS to support theater units and installation transportation activities, both in wartime and peacetime. The Defense ITV Integration Plan recognized the value of this system for ITV applications. TC-AIMS II, as the approved unit/installation level transportation migration system, is intended to address this need in theater.

TC-AIMS II must be capable of: processing shipment information received from CONUS and theater origin shipping (i.e., GSA, DLA Distribution Standard System, TC-AIMS II, etc.) and port systems; passing unit movement data to Service JOPES feeder systems; exchanging data with supply, finance, personnel and manpower, deploying unit and load planning systems; integrating with commercial carrier information systems to streamline ITO/TMO operations; tracking containers and pallets; reading and applying Automatic Identification Technology (AIT) systems data; interfacing with Global Transportation Netework (GTN); and generating documentation for deploying and redeploying unit cargo and personnel, sustainment, and for retrograde cargo. TC-AIMS II must also provide theater transportation management functions. Finally, it must be capable of being deployed to any theater with supporting load planning systems and function for the Theater Commander as the deployed aerial or water port AIS for unit movement and day-to-day passenger and cargo operations.

3.0 MISSION DEFICIENCIES

TC-AIMS II is the next step in the evolution of TC-AIMS as promulgated under SM-3-87 by the Joint Chiefs of Staff. This Mission Need Statement (MNS) for TC-AIMS II will continue the evolution of the Unit/Installation Level Defense Transportation System element. Much has been accomplished since the issuance of SM-3-87 but even more remains to be accomplished, and TC-AIMS II is critical to correcting these deficiencies.

Traffic Management is defined in JCS Publication 1-02 as "the direction, control, and supervision of all functions incident to the procurement and use of freight and passenger transportation services." Today's DTS remains largely fragmented along DoD component and modal lines characterizing the multiple oversight structure that currently exists. Management processes evolved independently for each mode of transportation, with focus more on "local" as opposed to total transportation system optimization. This fragmentation manifests itself in a number of deficiencies/mission needs. There are several information management deficiencies which must be overcome.

3.1 Separate Systems for Each Service/Activity.

Each of the Services and DoD activities operates its own separate systems to accomplish similar movement management and deployment-related tasks. These individual systems are not integrated to provide uniformity of information. There is a lack of standardization in data elements, data transmission formats, accessibility to information and source data capture capabilities. These limitations hamper our ability to create an accurate common DoD information picture of the status of deployments and DTS movements. Other operational impacts include: limited automated connectivity between/within the service/activity systems; separate transportation systems foster the growth of different, service-unique procedures to solve similar problems; separate, service-unique training courses must be developed/presented; and each system is maintained by a separate software development team.

3.2 Swivel-Chair Information Management.

The separate systems operated by each Service/activity cannot stand alone to satisfy the total information management needs for each unit/activity. This has led to the development of several systems across the Services which serve the same user with different capabilities. To take advantage of the total capabilities, the user is forced to acquire/use several different computer systems and hardware platform configurations. Because these various capabilities were developed independently, there is limited horizontal and vertical interoperability among them. The user must learn to operate several different systems to accomplish his job which lengthens the training time required and increases training complexity.

3.3 Command and Control Information Deficiency.

The separate systems operated by each Service/activity are not fully integrated with service-unique command and control systems or joint command and control systems which result in a lack of advanced movement information. This deficiency restricts the movement of accurate peacetime and wartime information, captured at the operational level, to other commands and supporting elements. This deficiency is most significant when the information relates to force deployment. Command and control headquarters, both for the deploying force and the supported CINC, require immediate access to an accurate picture of the deployment status.

3.4 Multiple Operating Environments.

The separate systems operated by each Service/activity provide different levels of capability to transition from daily operations to a higher OPTEMPO, e.g., to support a large force deployment or increased shipment levels. Some systems have an ability to operate on the battlefield while others have been designed for operation in garrison conditions with a specific communications interface requirement. The Services and CINCs need an integrated DoD transportation system which is operated by units that deploy, units that support the deployment, and Service/DoD activities both in peace and war. The integrated system must be capable of operating in all environments, at all OPTEMPO, and with a variety of communications support options.

3.5 Customer-Specific Needs.

The DTS community includes many different types of customers. Each customer type has specific information needs which are not currently being met in a cohesive DoD-standard system. The system customers listed below represent the baseline user community which will operate this information system.

a. Deployment Managers in Deploying Elements. Deploying unit commanders must translate information about the mission they are deploying to support into detailed and realistic movement plans for the deployment. This translation occurs in a short time period when information continually changes about available lift assets, mission details, and unit assets allocated to support the mission. The deployment managers, acting for the unit commander, must use this volatile information to plan unit convoys; schedule and track events; prepare load plans for vehicles, rail cars, aircraft or ships; prepare MILSTAMP/Electronic Data Interchange (EDI) documentation; and account for equipment, personnel, consumable supplies and funds. The current information management tools available to the deployment managers in all Services are not integrated and do not readily support the OPTEMPO for a crisis deployment.

b. ITO/TMO at Post, Camp, Station, and Base. The ITO/TMO is charged with coordinating transportation services, preparing shipment documentation, and certifying funding for all freight items and group passenger movements. This mission supports unit deployments, shipping sustainment items to support the deployed forces, and daily inbound/outbound shipments to support installation/depot business. The information management tools available to the ITO/TMO staff are not fully integrated with the other installation/depot systems or the unit deployment systems. The ITO/TMO systems do not have a common electronic interface to commercial carrier systems. Current systems are limited in their ability to do one-time data entry, minimize man-machine interface, and electronically exchange data, thereby causing business process inefficiencies. A lack of fully integrated systems and communications also delays the reporting of accurate in-transit visibility information.

c. Theater Movement Control Activity. Movement control activities on the modern battlefield require access to the best information which can be provided. Theater movement control activities are responsible for:

(1) Ensuring the delivery of items when and where needed, managing inbound, intra-theater, and retrograde transportation movements.

(2) Planning for the best use of available transport assets to meet the highest priority command needs.

(3) Providing multiple levels of service to accommodate customer needs.

(4) Creating Surface Distribution Plans which can be used by all shippers in a dynamic environment.

(5) Assisting in the expedited delivery, diversion, and timely movement of supplies to prevent traffic problems.

(6) Scheduling traffic along the theater distribution network to meet command needs.

(7) Accounting for intermodal assets and returning them for use in the DTS.

(8) Accurately documenting transportation funds committed to support ongoing missions.

(9) Management of inbound, intra-theater, and retrograde transportation movements.

The current suite of information management tools available to theater movement control activities is not fully integrated with the other logistical and C2 systems or with systems operated by the other Services on the same battlefield or in the same theater of operations.

d. Vehicle Asset Managers and Operators. The conveyances used to move military equipment and personnel assets are precious commodities. To schedule their use effectively, managers of these assets require access to timely information on the status of vehicles, drivers, and missions. This information must be displayed in a method which allows the managers to easily identify the status of all current and future missions and to allocate multiple consecutive missions to individual drivers and vehicle combinations. The current suite of information systems available to asset managers does not readily support this requirement. These systems are not integrated with other systems which track the maintenance status of the vehicles or driver availability/qualifications. This information management shortfall hampers the timely dispatch of movement assets and their effective use to support DTS movement missions.

e. Cargo Transshipping/Documentation Activities. Transshipment activities must be able to identify inbound shipments and plan for their quick, onward movement; document cargo for onward movement utilizing prepositioned electronic data and AIT capability; redirect frustrated cargo; expedite shipments; and report on the status of shipments in transit. The current suite of information management systems available for transshipment activities does not support these actions without extensive man-machine interface. This shortfall expands the amount of time needed to process transshipment documentation and lengthens the time shipments remain at transshipment facilities. There is a need for a common DoD transshipping software application

that supports all intermodal activity at transshipment points, whether airports, seaports, barge, terminals, railheads, truck hub-and-spoke terminals, or consolidation activities.

In summary, DTS is handicapped by long-standing problems that begin at the unit/installation level. DoD's mobility challenges in the world's new operating environment require integrated, flexible, effective, efficient, and responsive structures and processes. Customers are increasingly critical of the DTS's ability to provide reliable, cost-effective transportation services in comparison to the commercial sector; they will not tolerate unnecessary overhead, excessive layering, and duplication of effort. The DTS must use "best-business" practices and strive to continually improve service to its customers. One key ingredient in realizing this much-needed improvement is through the fielding of TC-AIMS II.

DoD Component systems will continue to be stove-piped at the unit/installation level and will not support joint or composite operations which support national strategies. System maintenance costs will continue to be high and the cost of upgrading the individual systems may exceed available budgeted amounts. Current ITV/TAV initiatives will be compromised and operational unit movement data will not be available to strategic planners without a great deal of collection effort.

4.0 SECURITY, INTERFACE, AND INTEROPERABILITY REQUIREMENTS

TC-AIMS II will operate at the unclassified level and will contain multiple levels of access control to ensure sensitive information is not compromised. System security will need to be incorporated into the TC-AIMS II and there will be a need for a back-up capability at each server site to provide continuous operational capabilities to customers. Continuity of Operations Plans (COOP) for all server sites will be required. The system, when deployed with operational forces, will need to be capable of operating in a tactical environment and will also be capable of operating in a stand-alone mode.

TC-AIMS II will be fully integrated with port operations systems and interoperable with other automated transportation, logistics, operations, personnel, and finance systems. The system will be in compliance with GCSS and Defense Information Infrastructure Common Operating Environment (DII COE) standards. TC-AIMS II must comply with applicable information technology standards contained in the Joint Technical Architecture (JTA).

TC-AIMS II will comply with the security requirements identified in DoD Directive 5200.28, Security Requirements for AISs, and DoD Regulation 5200.1-R, DoD Information Security Program Regulation.

5.0 PROJECTED FUNCTIONAL BENEFITS

The functional benefits include the first truly joint AIS for unit/installation transportation management that will meet the needs of the DOD components in a single standard system. TC AIMS II becomes the standard installation-level unit deployment and sustainment system for all Services. It will replace a collection of six unit movement and ITO/TMO systems that evolved

from each Service's business practices. Individual service systems hampered the ability for cross-service or joint application in all Services worldwide.

TC AIMS II will give the warfighters access to more accurate, complete, and timely deployment/redeployment and sustainment data through Global Transportation Network (GTN). As a result, it will give the joint planning and execution communities information to more efficiently plan and manage movement of units to locations worldwide. By combining accurate source data with various inventory information sources, TC AIMS II contributes to Total Asset Visibility (TAV), enabling warfighters and decision-makers to reroute or divert sustainment, strategic lift, or entire units in response to a rapidly changing tactical situation.

As a GTN source-data system, TC AIMS II provides a piece of theater ITV, becoming a redeployment data source. TC AIMS II directly supports effective command and control through GTN's ITV capability. The transportation migration plan puts an important GTN data source in place.

TC AIMS II will automatically produce required forms and labels, facilitating the accurate and timely documentation of units as they prepare to deploy or redeploy. Accurate deployment data means surface and airlift assets go to the right place in the right quantities at the right time.

6.0 CONSTRAINTS

6.1 **Common Operating Environment (COE).** TC-AIMS II must comply with GCSS and DII COE for information management systems. These standards are most critical for clients who use the system in the battlefield environment where system interoperability is a crucial success factor. The system must comply with the MANPRINT standard and must be transportable for use while deploying, in garrison, and on the battlefield.

6.2 **Communications.** TC-AIMS II will be operated around the globe in areas where communications infrastructure is completely developed and reliable and in other areas where the communications infrastructure is non-existent. In either environment, TC-AIMS II information management capabilities will be necessary to support the deployment, sustainment, redeployment/retrograde, and employment of forces. TC-AIMS II communications design must support a wide range of options, including commercial telephone services, wireless communications, local area networks, wide area networks, the Warfighter Information Network (WIN), Defense Information System Network (DISN), tactical Mobile Subscriber Equipment (MSE), cellular communications, and satellite communications. The type of communications being employed must be transparent to the functional system user, i.e., there should be no technical knowledge burden placed on the user who is required to send/receive information.

6.3 **Power.** When provided to deploying/deployed forces, TC-AIMS II hardware must be capable of operating in both field and garrison conditions using commercial power sources, mobile generator power, vehicle (battery) power, or computer battery power.

6.4 **Joint Usage.** TC-AIMS II software design must permit service-unique capabilities. While the system should be operated similarly by all Services, the importance of data elements, process or process structures to one Service should not be set aside because the same requirement does not exist across all Services.

6.5 **Geographic Information Systems (GIS).** In situations where TC-AIMS II will use map databases to support applications, the TC-AIM II design will permit use of the standard GIS selected for C2 systems.

6.6 **Interface to Command and Control Systems.** TC-AIMS II must provide for information exchange with service-unique C2 and joint C2 systems.

6.7 **Documentation Formats.** TC-AIMS II input and output documentation, transmissions, and input screens will comply with standards established in Standard NATO Agreements (STANAG), Joint US Message Text Formats (USMTF), American National Standards Institute (ANSI), Electronic Data Interchange (EDI) formats, MILSTAMP (DoD Reg 4500.32R), and radio-frequency (RF) tag formats.

6.8 **MILSTAMP.** TC-AIMS II functional processes will comply with shipping, transshipping, and receiving procedures documented in DoD 4500.32R, Military Standard Transportation and Movement Procedures (MILSTAMP), and the Defense Transportation regulation, DoD 4500.9-R (DTR).

6.9 **Source Data Automation.** TC-AIMS II will use DoD-approved source data automation. This includes the suite of AIT devices approved by DoD such as radio frequency tags, LOGMARS (3 of 9 and 2D) labels, optical laser cards, soldier data cards, and other methods established as DoD standards. The TC-AIMS II hardware suite must include the peripheral devices which will read these source data automation devices and write or change the information on the device. (Deleted at meeting but recommend that it be included.)

6.10 **Information Access.** Information in the TC-AIMS II is not classified. The system software should contain multiple levels of access control to ensure sensitive information related to deployments and movement costs is not compromised. When TC-AIMS II is supported by tactical communications networks, the use of end-to-end encryption technologies is required.

6.11 **Deployment Phases.** The TC-AIMS II will be used to support information activities for both the supporting CINC and supported CINC and their Service components. These activities include: pre-deployment planning actions, movement to local assembly areas, movement to POE, load planning for strategic lift, reception at POD, and onward movement from POD. In addition, TC-AIMS II must support sustainment, retrograde movement of unit equipment, and redeployment of forces to home stations.

6.12 **Source Data from Service-unique Systems.** The TC-AIMS II will draw deployment-related information from service-unique systems. This data may include personnel identification, equipment lists, funding information, and movement status.

6.13 **Multimedia Training.** The TC-AIMS II will include a multimedia training package via CD ROM. The ability to load on the individual PC provides a form of embedded training.

6.14 **Mode Asset Tracking Interface.** When used in support of Vehicle Asset managers and operators, TC-AIMS II will include an interface to onboard the vehicle data communication and tracking devices. This will permit the managers/operators to identify vehicle locations and communicate with the drivers under their command.

6.15 **Reserve Components.** TC-AIMS II will be used by the Reserve Components of all Services to support pre-deployment planning activities, movement to home station, movement to mobilization station and similar activities associated with demobilization-related movements.

6.16 **Service Depots and Defense Depots.** TC-AIMS II will interface with and be used by transportation activities at Service depots and Defense depots to process inbound and outbound freight shipments.

6.17 **Non-unit Personnel Movements.** TC-AIMS II will support the scheduling and documentation requirements for movement of non-unit personnel on commercial and military assets.

6.18 **Task Force Organizations.** TC-AIMS II software design will permit Service units to easily task and organize into a deployable force through cross-leveling of equipment, personnel, and consumable stocks. A joint task organization among the Services will also be supported. The task organization should include provisions for deploying civilian personnel, DoD personnel and equipment in TDA units, non-DoD personnel/equipment, and foreign nationals.

6.19 **Cross-Service Compatibility.** TC-AIMS II system design should permit system operation by any Service personnel on workstations provided by other Services, i.e., USAF personnel deploying from a forward base to home station should be able to use TC-AIMS II workstations at US Army-controlled facilities/assembly areas to support deployment processing, also meeting the DISA open-system architecture and GCSS COE compliance.

6.20 **Interfaces.** TC-AIMS II will interface with service-unique systems and DoD systems to support TAV and ITV objectives for shipments in the DTS. TC-AIMS II will interface to serve unique systems for shipment planning, shipment receiving, and financial accounting.

6.21 **Data Standardization.** All data elements transmitted and received by the system or provided through remote access to other systems must comply with DoD standards.

7.0 . DOD CORPORATE INFORMATION MANAGEMENT (CIM) STRATEGIC PLAN (SP) AND ENTERPRISE INTEGRATION IMPLEMENTING STRATEGY (EIIS)

TC-AIMS II was selected as a Defense transportation migration AIS in compliance with all aspects of the DOD CIM SP & EIIS. Selected migration developments of TC-AIMS II that show compliance with outstanding DOD CIM SP & EIIS are depicted in Tables 1 and 2.

DOD CIM Strategic Plan calls for:	TC-AIMS II will provide:
Modernized information systems implemented to support reengineered functional processes. **Vision (p. 3) DOD CIM SP** "Reinvent" and reengineer DOD functional processes to achieve greater mission effectiveness at lower cost. **Goal #1 (p. 8) DOD CIM SP**	• A modernized and easily deployable automated information system (AIS) that supports reengineered functional processes throughout DOD. • Increased effectiveness of the DTS as the single DOD Transportation Management AIS for use by all DOD Component unit movement personnel and ITOs/TMO.
Global end-to-end information connectivity among US and allied forces as a critical mission capability and force multiplier for worldwide readiness, mobility, responsiveness, and operations. **Vision (p. 3) DOD CIM SP** Tie DOD together through the use of common, shared data. **Goal #2 (p. 9) DOD CIM SP**	• Essential electronic linkage for US forces crucial movement information from the source to achieve global end-to-end information connectivity by linking all DOD Component unit movement personnel and ITO/TMOs into one consolidated, integrated, easily deployable, transportation management system. • Critical mobility support, a force multiplier improving responsiveness of DOD Component unit movement personnel and ITO/TMOs to move passengers and cargo worldwide.

All department functions and organizations have been reengineered, improved, and integrated, from an enterprise-wide perspective, to achieve streamlined and significantly more effective operations. **<u>Vision</u> (p. 3) DOD CIM SP** Minimize duplication and enhance DoD's information systems to embody reengineered processes. **<u>Goal #3</u> (p.10) DoD CIM SP** Apply CIM to integrate Defense enterprise-wide operations. **<u>Goal #5</u> (p.12) DOD CIM SP**	• Improved, integrated, easily deployable, single DOD Transportation Management AIS, reengineered using the best functions of its legacy and migration systems. • Eliminates duplicate systems among DOD component unit movement officers and ITO/TMO AIS infrastructure. • Open architecture to include compliance with GCSS Common Operating Environment (COE) standards will enhance TC-AIMS II's ability to incorporate results of ongoing process reengineering efforts to improve DTS responsiveness to the warfighter. • Removal of barriers to data sharing, data transfer, and interoperability which is GCSS COE.

The military industrial base has been fully integrated with the commercial base so the department can rapidly obtain and use standard commercial products and services at lower cost. Acquisition has been streamlined through the application of CALS and EC/EDI enabling technologies. **Vision (p. 3) DOD CIM SP** Implement a flexible efficient worldwide computer and communications infrastructure. **Goal #4 (p.11) DOD CIM SP**	• EC/EDI linkages to the commercial transportation industry for procurement of passenger and cargo transportation services at "best value" to users. • Integrate transportation and related logistics and operations AIS to ensure cross-functional integration of the deployment and replenishment processes. • Standardized system that achieves total interoperability for all DOD component unit movement officers and ITO/TMOs.
Joint interoperability and information integration have been achieved resulting in significantly improved joint Service and multinational operations. **Vision (p. 3) DOD CIM SP** Establish CIM policies and management structures. **Goal #6 (p.13) DOD CIM SP**	• Significantly improved joint mobility and transportation because TC-AIMS II provides DOD unit movement personnel and ITO/TMOs with a single totally integrated, easily deployable transportation management AIS.

Table 1. Outstanding DOD CIM Strategic Plan Requirements Filled by TC-AIMS II

DOD EIIS calls for:	TC-AIMS II will provide:
Bridging functional and technical boundaries in DOD and with industry, allies, and coalition partners to promote communication, increase flexibility, and avoid waste and duplication (para 2.0, p. 3).	• A system that overcomes functional and technical barriers using EC/EDI links between DOD unit movement personnel and ITO/TMOs and the commercial transportation industry. • Waste and duplication avoidance through use of GCSS COE architectural standards.
EDI is a tactical strategy and an implementing process. EDI can be viewed as a mission-oriented focus on cross-functional integration supported by integrated information systems (para 2.0, p. 3).	• Cross-functional standard electronic linkage with all logistics functional areas and commercial industry.

Business Process Reengineering. All department functions and organizations have been reengineered, improved, and integrated while being supported by modernized, standards-based information systems which provide "end-to end" flows of information and decision support (para 2.1, p. 5).	• A modern, GCSS standards-based, integrated AIS with open architecture to support on-going efforts to reengineer DTS and unit deployment business processes. • A system that supports data standardization processes and actions • A system that supports ITV/TAV initiatives
Integrated Processes. The right products are supplied at the right place and time to help achieve the assigned mission.	• A fully integrated, easily deployable AIS that enables all DOD unit movement personnel and installation ITO/TMOs to manage deployment and movement processes as part of a logistics network to ensure arrival at the right place and time to support mission accomplishment.

Table 2. Outstanding DOD EIIS Requirements Filled by TC-AIMS II

DEPARTMENT OF THE ARMY
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ALEXANDRIA, VIRGINIA 22302-1458

CSTE-AEC-ITD

21 June 2002

MEMORANDUM FOR Project Manager, Transportation Information Systems

SUBJECT: TC-AIMS II Block 1 Operational Evaluation

1. References electronic mail message, PEO EIS TIS/Titan, Alice Moorman, 19 Jun 02, subject: Memorandum for TC-AIMS II MIPS.

2. The project manager requested a memorandum stating the operational test and evaluation findings for Block 1. The evaluation addresses operational test and evaluation for the Army, Navy, Marine Corps, and Air Force. The evaluation has been approved by the Commanding General, Army Test and Evaluation Command (ATEC).

3. The ATEC operational evaluation, based on each of the Service's attempts to plan, coordinate a unit move, has found TC-AIMS II Block 1 to be operationally ineffective, unsuitable, and not survivable. Significant software problems and the users' inability to use Block 1 prevented the completion of a unit move for any service.

4. ATEC provided the project manager and functional proponents with the information needed to correct the software problems that prevented successful unit moves for the US Army Europe (USAREUR) and the US Navy. The problems were corrected and ATEC verified USAREUR and the Navy can successfully complete unit move. The ATEC evaluation is changed only for USAREUR and Navy that Block 1 is effective, suitable, and survivable.

5. TC-AIMS II remains ineffective, unsuitable, and not survivable for the remainder of the Army, the Marine Corps, and the Air Force.

6. ATEC POC is Mr. Lloyd Pickering, 703-681-4670.

LLOYD J. PICKERING
Director, Information Technology
Evaluation Directorate

BUY US SAVINGS BONDS THROUGH THE PAYROLL DEDUCTION PLAN

DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF G-4
500 ARMY PENTAGON
WASHINGTON, DC 20310-0500

REPLY TO
ATTENTION OF

DALO-DPP

18 June 2002

MEMORANDUM FOR DEPUTY DIRECTOR, PROGRAM ANALYSIS AND EVALUATION

SUBJECT: Transportation Coordinator's Automated Information for Movements System II (TC-AIMS II) Affordability Assessment, Milestone III Decision

1. Reference U.S. Army Cost and Economic Analysis (CEAC) review of the TC-AIMS II program, June 2002.

2. This memorandum is in response to the concern expressed by Program Analysis and Evaluation Directorate that TC-AIMS II is not affordable within the current President's Budget 03 (PB 03).

3. The Sustaining Program Evaluation Group (PEG) will program TC-AIMS funds for FY04-09, in the Program Objective Memorandum (POM) 04-09 to properly align funding to the Joint Cost Position. Following are increased by year from the PB03 levels; FY04 $14.0M, FY05 $16.7M, FY06 $7.0M and FY07 $32.8M.

4. POC for this action is LTC Rich Schreiber, 614-4017

Joe R. Billman

JOE R. BILLMAN
Director of Program
Development

CF:
CEAC
PEO EIS

Printed on Recycled Paper

DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF FOR PROGRAMS
700 ARMY PENTAGON
WASHINGTON, DC 20310-0700

REPLY TO
ATTENTION OF

June 21, 2002

MEMORANDUM FOR PROGRAM EXECUTIVE OFFICER, ENTERPRISE INFORMATION SYSTEMS

SUBJECT: Affordability Assessment for Transportation Coordinators' Automated Information for Movement System II (TC-AIMS II)

TC-AIMS II is an ACAT 1AM program that is approaching a Milestone C decision on 1 July 2002 for the limited fielding of Block 1 software to U.S. Army Europe (USAREUR) and the U.S. Navy 3.0. The U.S. Army Cost and Economic Analysis Center (CEAC), Program Manager (PM) TC-AIMS II, and representatives from other U.S. Army agencies, the U.S. Navy, the U.S. Air Force, and the U.S. Marine Corps participated in a Cost Integrated Product Team (CIPT) to develop a Joint Cost Position (JCP). CEAC briefed the recommended JCP to the Cost Review Board (CRB) on 19 Jun 02. The CRB approved the recommendation; this affordability assessment is based upon the CRB-approved JCP.

The CIPT developed a Baseline Cost Position reflecting the PM's optimal, executable schedule. The schedule consisted of seven, 18-month development blocks, each providing a stand-alone capability in accordance with the Information Management Reform Act of 1996 (Clinger-Cohen Act). This schedule would achieve Initial Operating Capability (IOC)[1] in FY02 and Full Operating Capability (FOC)[2] in FY08. Cost estimates were based on the TC-AIMS II Cost Analysis Requirements Description (CARD) dated 11 Jan 02. PM TC-AIMS II used a function point count and the SEER-SEM model to estimate software development costs. CEAC validated software development costs using the PRICE-S model. Hardware costs were estimated using a 5-year replacement policy for the Army; other services will procure service-specific hardware. Using PB03 funding levels[3], the program had a $194.5M shortfall in FY02-05 and FY07-08. Therefore, the Baseline Cost Position was determined to be unaffordable. The Baseline Cost Position with PB03 funding is summarized in the following tables:

	TC-AIMS II Total									
($ Millions)	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY02-09	FY 04-09
Baseline Cost Position	51.5	63.0	79.2	71.7	51.0	88.5	82.7	63.1	550.7	436.2
Funding (PB 03 Lock)	42.4	29.4	30.0	30.0	53.4	42.4	67.9	69.8	365.3	293.5
UFR	9.1	33.6	49.2	41.7	(2.4)	46.1	14.8	(6.7)	185.4	142.7
% Funded	82%	47%	38%	42%	105%	48%	82%	111%	66%	67%

[1] Initial Operating Capability (IOC) is defined as fielding of Block 1 Unit Move software.
[2] Full Operating Capability (FOC) is defined as fielding of Block 7 Map Graphics software.
[3] POM 0409 PF 2.0 funding is used in FY08-09.

SUBJECT: Affordability Assessment for Transportation Coordinators' Automated Information for Movement System II (TC-AIMS II)

	OMA									
($ Millions)	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY02-09	FY 04-09
Baseline Cost Position	7.3	16.5	22.9	25.4	23.1	24.9	25.1	28.3	173.5	149.7
Funding (PB 03 Lock)	7.3	7.6	7.6	7.6	10.3	9.5	24.2	24.5	98.5	83.6
UFR	(0.0)	8.9	15.3	17.8	12.8	15.4	0.9	3.8	75.0	66.1
% Funded	100%	46%	33%	30%	44%	38%	96%	87%	57%	56%

	OPA									
($ Millions)	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY02-09	FY 04-09
Baseline Cost Position	31.0	28.2	36.0	24.6	1.5	37.6	44.6	34.8	238.3	179.1
Funding (PB 03 Lock)	25.3	11.5	15.1	14.5	30.6	20.2	26.1	26.4	169.7	132.9
UFR	5.7	16.7	20.9	10.1	(29.1)	17.4	18.5	8.4	68.6	46.2
% Funded	82%	41%	42%	59%	2042%	54%	59%	76%	71%	74%

	RDTE									
($ Millions)	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY02-09	FY 04-09
Baseline Cost Position	13.2	18.3	20.3	21.7	26.4	26.0	13.0	-	138.9	107.4
Funding (PB 03 Lock)	9.8	10.3	7.3	7.9	12.5	12.7	17.7	18.9	97.0	76.9
UFR	3.4	8.0	13.0	13.8	13.9	13.3	(4.7)	(18.9)	41.9	30.5
% Funded	74%	56%	36%	36%	47%	49%	136%	NA	70%	72%

The CIPT developed an excursion that adjusted the program schedule. Under the excursion, IOC will remain in FY02, however FOC will not be achieved until FY11, a 3-year delay. The CRB approved this excursion as the JCP. With PB03 funding levels, the JCP has a $3.4M RDTE funding shortfall in FY02 and $70.5M funding shortfall in FY04-07. PM TC-AIMS II has resourced the $3.4M shortfall in FY02. The Sustaining Program Evaluation Group (PEG) has increased funding by $70.5M in POM 0409 and has signed a memorandum stating their commitment to fund this shortfall in the POM. This excursion with POM 0409 funding is summarized in the following tables:

	TC-AIMS II Total									
($ Millions)	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY02-09	FY 04-09
Joint Cost Position	45.8	29.4	44.0	46.8	60.4	75.1	59.9	57.4	418.8	343.6
Funding (POM 0409)	42.4	29.4	43.9	46.7	60.4	76.0	67.9	69.8	436.6	364.8
UFR	3.4	0.0	0.1	0.1	0.0	(0.9)	(8.0)	(12.4)	(17.8)	(21.2)
% Funded	93%	100%	100%	100%	100%	101%	113%	122%	104%	106%

	OMA									
($ Millions)	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY02-09	FY 04-09
Joint Cost Position	7.3	7.6	9.6	11.6	11.8	23.7	16.3	16.0	103.9	89.0
Funding (POM 0409)	7.3	7.6	9.6	11.6	11.8	23.7	24.2	24.5	120.3	105.4
UFR	(0.0)	(0.0)	(0.0)	0.0	(0.0)	(0.0)	(7.9)	(8.5)	(16.4)	(16.4)
% Funded	100%	100%	100%	100%	100%	100%	148%	153%	116%	118%

	OPA									
($ Millions)	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY02-09	FY 04-09
Joint Cost Position	25.3	11.5	17.9	16.5	30.3	28.3	26.0	23.1	178.9	142.1
Funding POM 0409)	25.3	11.5	17.9	16.5	30.3	28.6	26.1	26.4	182.6	145.8
UFR	(0.0)	0.0	0.0	(0.0)	0.0	(0.3)	(0.1)	(3.3)	(3.7)	(3.7)
% Funded	100%	100%	100%	100%	100%	101%	100%	114%	102%	103%

SUBJECT: Affordability Assessment for Transportation Coordinators' Automated Information for Movement System II (TC-AIMS II)

	RDTE									
($ Millions)	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY02-09	FY 04-09
Joint Cost Position	13.2	10.3	16.5	18.7	18.3	23.1	17.6	18.3	136.0	112.5
Funding (POM 0409)	9.8	10.3	16.5	18.7	18.3	23.7	17.7	18.9	133.7	113.6
UFR	3.4	0.0	0.0	0.0	0.0	(0.6)	(0.1)	(0.6)	2.3	(1.1)
% Funded	74%	100%	100%	100%	100%	103%	100%	103%	98%	101%

Based on the SS PEG commitment to fund the $70.5M shortfall in POM 0409, PAED has determined that the excursion is sufficient and affordable and concurs with the CRB to adopt this excursion as the JCP.

Donald C. Tison
Deputy Director, Program
Analysis and Evaluation

CF:
DIRECTOR, COST AND ECONOMIC ANALYSIS CENTER
PROGRAM MANAGER, TRANPORTATION COORDINATORS' AUTOMATED INFORMATION FOR MOVEMENT SYSTEM II (TC-AIMS II)

DEPARTMENT OF THE ARMY
OFFICE OF THE SECRETARY OF THE ARMY
107 ARMY PENTAGON
WASHINGTON DC 20310-0107

Office, Chief Information Officer / G-6

June 19, 2002

MEMORANDUM FOR DOD CHIEF INFORMATION OFFICER

SUBJECT: U.S. Army Chief Information Officer Confirmation of Clinger-Cohen Compliance for the Transportation Coordinators' – Automated Information for Movements System II Program for a Milestone III Decision

In accordance with DoDI 5000.2, Change 1, dated January 4, 2001, Section 4.7.3.2.3.2, as modified by the March 8, 2002 memorandum co-signed by the USD (ALT) and the ASD (C3I), this memorandum provides the DoD Chief Information Officer confirmation that the Transportation Coordinators' – Automated Information for Movements System II (TC AIMS II) program is being developed in accordance with the Clinger-Cohen Act (CCA) of 1996 (40 U.S.C. 1401 et seq.). Subject to a favorable re-look by ATEC for all Services that choose to receive TC AIMS II Block I, I hereby confirm that the TC AIMS II Program has been assessed by my office and is compliant with all CCA, DoD and Army Chief Information Officer assessment requirements for a Milestone III decision.

for Peter M. Cuviello MG, USA
Lieutenant General, GS
Chief Information Officer/G-6

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY
ACQUISITION LOGISTICS AND TECHNOLOGY
103 ARMY PENTAGON
WASHINGTON DC 20310-0103

25 JUN 2002

REPLY TO
ATTENTION OF

SAAL-ZBA

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE)

SUBJECT: Army Position for the Transportation Coordinator's-Automated Information for Movements System II (TC-AIMS) Milestone III

On June 25, 2002, the Vice Chief of Staff of the Army and I conducted an Army Systems Acquisition Review Council for the TC-AIMS II program in preparation for the Milestone III Decision Review. As a result of the ASARC, I recommend fielding TC-AIMS II (Block1) to the U.S. Army Europe and the U.S. Navy immediately. I recommend fielding to the U.S. Army Forces Command in August 2002, contingent upon the successful completion of testing as certified by the Army Test and Evaluation Command. I also approved the revised Acquisition Strategy and the Program Baseline, on behalf of the Army, and forwarded them for your approval.

Claude M. Bolton, Jr.
Army Acquisition Executive

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DEFENSE INFORMATION SYSTEMS AGENCY
JOINT INTEROPERABILITY TEST COMMAND
INDIAN HEAD DIVISION
NAVAL SURFACE WARFARE CENTER
101 STRAUSS AVENUE, BUILDING 900
INDIAN HEAD, MARYLAND 20640-5035

IN REPLY
REFER TO

JITC Washington Operations
Division (JTC)

Ser JTCB/064
28 June 2002

MEMORANDUM FOR PROGRAM MANAGER, TRANSPORTATION COORDINATORS'-AUTOMATED INFORMATION FOR MOVEMENT SYSTEM II

SUBJECT: Letter of Witness and Preliminary Assessment for Transportation Coordinators'-Automated Information for Movement System (TC-AIMS II) Version 3.01, Build 73

1. The Joint Interoperability Test Command (JITC) participated in a Continuous Evaluation (CE) Re-look test and revalidation of the Transportation Coordinators'-Automated Information for Movement System (TC-AIMS II) functionality and interoperability deficiencies.

2. The Army Test and Evaluation Command (ATEC) and the JITC identified the deficiencies during the Initial Operational Evaluation and Test conducted in November 2001. ATEC conducted the CE Re-look test and revalidation for the Navy on 13 through 16 May 2002 at Norfolk Naval Base, Virginia and for the Army (Europe) on 3 through 7 June 2002 at Heidelberg, Germany.

3. Preliminary assessment from the CE Re-look test found no interoperability problems encountered during the information exchange between TC-AIMS II and the specified interfaces listed in the table below.

TC-AIMS II Continuous Evaluation Re-look Preliminary Results

NAVY AND ARMY (EUROPE)	
INTERFACING SYSTEM (SERVICE)	**PRELIMINARY INTEROPERABILITY RESULTS**
AALPS Version 4.2 (Joint)	Initial assessment: key performance parameter met
CALM Version 5.7 (Joint)	Initial assessment: key performance parameter met
GATES Version 2.05 (Joint)	Initial assessment: key performance parameter met
GTN Version 3.160c (Joint)	Initial assessment: key performance parameter met
ICODES Version 5.1.3 (Joint)	Initial assessment: key performance parameter met
JFRG II Version 1.4.1.0 (Joint)	Initial assessment: key performance parameter met
NCMIS Version Unknown (Navy)	Initial assessment: key performance parameter met
SIDPERS Version 1.3 (Army)	Initial assessment: key performance parameter met

TC-AIMS II Continuous Evaluation Re-look Preliminary Results (continued)

NAVY AND ARMY (EUROPE)	
INTERFACING SYSTEM (SERVICE)	**PRELIMINARY INTEROPERABILITY RESULTS**
TC-ACCIS Version 5.0.121 (Army)	Initial assessment: key performance parameter met
TC-AIMS II/V3 to V3 Version 3.01 (Joint)	Initial assessment: key performance parameter met
WPS Version 6.08 (Joint)	Initial assessment: key performance parameter met
AIT - Bar code labels	Interface worked/printed
AIT - RF Tags	Interface worked/printed

Legend:
AALPS- Automated Air Load Planning System
AIT- Automated Identification Technology
CALM- Computer Aided Load Manifesting
GATES- Global Air Transportation Execution System
GTN- Global Transportation Network
ICODES- Integrated Computerized Deployment System Joint
JFRG II- Joint Force Requirements Generator II
NCFMIS- Naval Construction Force Management Information System
RF- Radio Frequency
PAX Passengers
SIDPERS III- Standard Installation/ Division Personnel System III
TC-ACCIS- Transportation Coordinators' Automated Command and Control Information System
TC-AIMS II- Transportation Coordinators'-Automated Information for Movement System II
WPS- Worldwide Port System

4. This memorandum is a preliminary evaluation from the results collected and functionality witnessed during the CE Re-look testing. The interoperability certification for TC-AIMS II Version 3.01, Build 73 with specified interfaces will be documented in the Joint Interoperability Certification Letter and Interoperability Certification Evaluation Report currently being drafted.

5. The testing agency point of contact is Ms. Peggy Garrison, JTCB, DSN 354-2703 or commercial (301) 744-2703. Her e-mail address is garrisop@ncr.disa.mil.

FOR THE COMMANDER:

MICHAEL P. MANGAN
Chief, JITC Washington
Operations Division

ANNEX D
ASARC BRIEF

TC-AIMS II

Transportation Coordinators' –
Automated Information for Movements System II

Block 1 ASARC

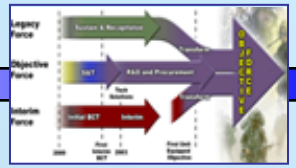
25 June 2002

Agenda

➢ Introduction	PEO, EIS
➢ Program Mission & Need	HQDA, G4
➢ Developer's Brief	PM, TIS
➢ ATEC's Position	ATEC
➢ USA CEAC's Cost Position	USA CEAC
➢ PA&E's Affordability Position	PA&E
➢ Summary	PM, TIS

Decisions Requested

- Field TC-AIMS II Block 1 to US Navy and USAREUR **NOW!**
- Field to the remainder of the Army after successful ATEC re-look in Aug 2002
- Recommend to ASD(C3I) to approve fielding to US Army and US Navy.



99 JROC-Approved Deployment IT Solution

SERVICE LEGACY SYSTEMS

JOINT SOLUTION

CMOS - ITO/TMO

TC-AIMS - Unit Moves

MDSS II - Move Plans

TC ACCIS - Rail Load Module

DAMMS – Convoy Module

Migration Process

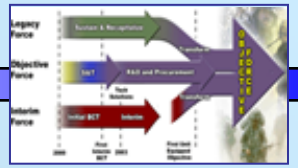
TC-AIMS II

Visibility of Deploying Assets

- Army is Executive Agent
- 99 JROC approved ORD for Block 1
  - ORD revision for subsequent blocks scheduled for 16 July AROC
- Supports CJCS 72-hour TPFDD initiative
- Supports CSA Transformation Deployment Objectives
- Provides ITV

Supporting Soldiers…Sustaining The Army

Mr. Osborn, DALO-FPM/692-5930/robert.osbornr@hqda.army.mil

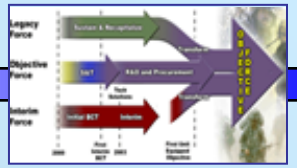


Army NEEDS TC-AIMS II NOW!

- TC-ACCIS is non deployable
- TC-AIMS II **IS** a deployable capability that supports intra-theater deployment and re-deployment
- TC-AIMS II supports Army transformation
- Complies with CJCSI 3020.01 of June 2000
- Army has invested 7 years and $200M in TC-AIMS II
- Navy needs TC-AIMS II as it has no automated deployment system

Mr. Osborn, DALO-FPM/692-5930/robert.osbornr@hqda.army.mil

TC-ACCIS Sample Screen



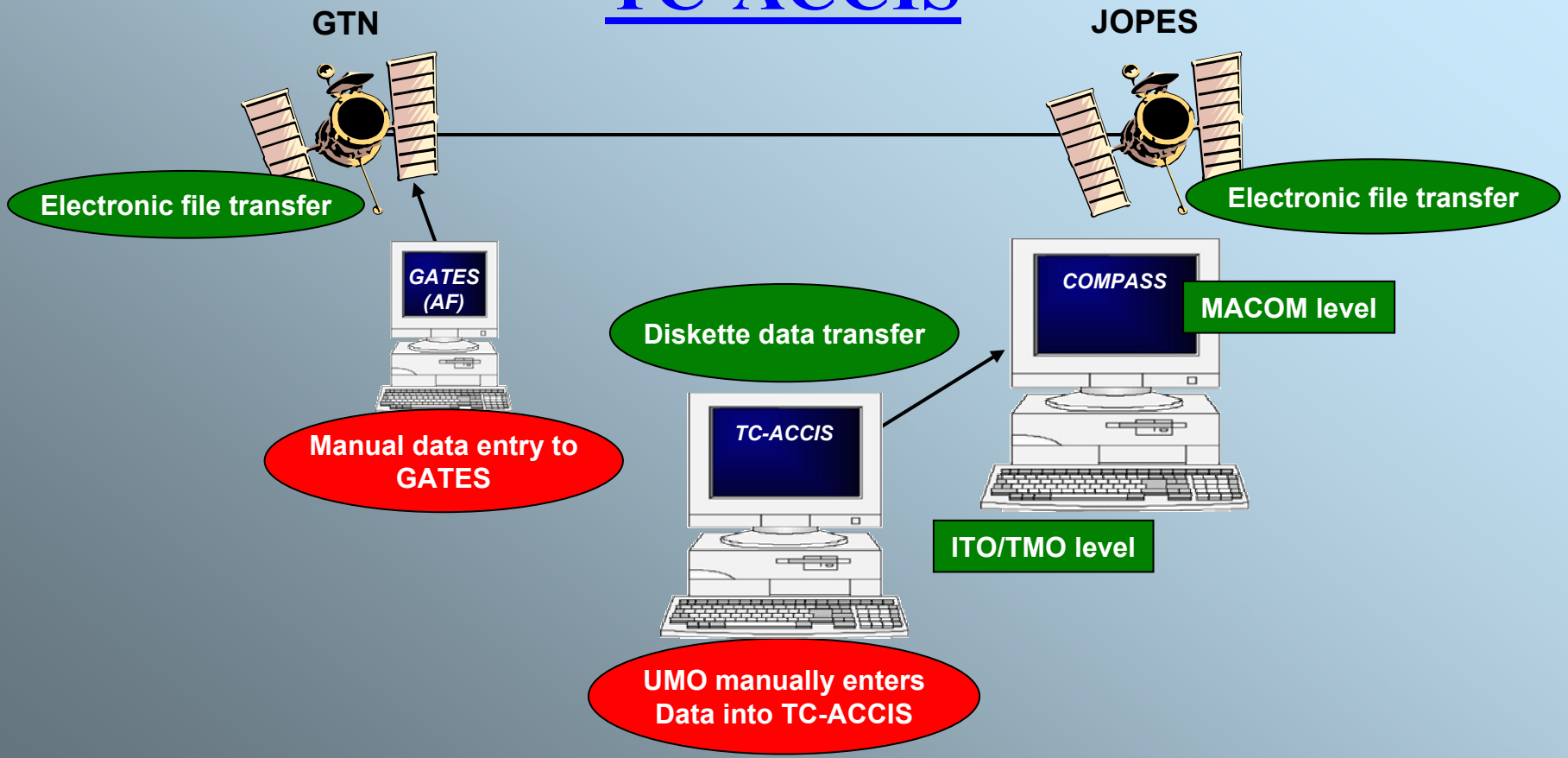
C:\WINNT\System32\telnet.exe

```
19Apr02                          TC ACCIS MAIN MENU                          FICSIF001
EQUIPMENT:  1-Maintain  2-Copy  3-Sort  4-Query  E-Exit
[ESC] to Accept, [F1] to Select, [F2] to De-select, or [F9] for Detail Section
19Apr02                        Equipment List Data                           FICEUF012
--------------------     FULL list sorted by SHIPMENT NUMBER  --------------------
UIC  WABTT0                                          Exercise ZB
 * C SUN  VI Model       Description          LIN/Index EchULN     D M S A/H *
 X   D0001 V M998        TRK UTIL CRG/TRP CAR T61494 04 02         D K N  N  *
 X   D0002 V M998        TRK UTIL CRG/TRP CAR T61494 04 02         D K N  N  *
 X   D0003 V M998        TRK UTIL CRG/TRP CAR T61494 04 02         D K N  N  *
 X   D0004 V M998        TRK UTIL CRG/TRP CAR T61494 04 02         D K N  N  *
 X   D0005 V M998        TRK UTIL CRG/TRP CAR T61494 04 02         D K N  N  *
------------------------------ DETAIL FOR D0001  ------------------------------
Ser# Not On Hand          Bumper HQ6     Tra/Bmp#      /          Owner WABTT0
L   187  SqFt      110   EmptyWt     5280  TEC            WCC 867  WI     TPC VO
W    84  CuFt      482   ActWt       5280  STONS      2.7 SHC 9    CCC R2BA Ov N
H    53  CuLd        0   MaxWt       7780  MTONS       13 TCC Z
Vehicle Remarks:
------------------------ VEHICLE LOAD DATA FOR   D0001  -------------------------
 LOAD DESCRIPTION              LIN/Index       SUN      LOAD#      QTY     COR


LIN Index: Press [F6] for help
```

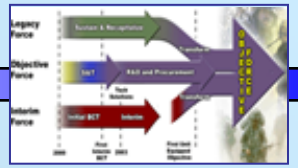

Mr. Osborn, DALO-FPM/692-5930/robert.osbornr@hqda.army.mil

TC-ACCIS



Mr. Osborn, DALO-FPM/692-5930/robert.osbornr@hqda.army.mil

TC-AIMS II Sample Screen



TC-AIMS II - For Official Use Only

File Edit View Tools Window Help

TC-AIMS II
- Asset Management
  - Manage Equipment
  - Manage Personnel
  - Manage Supplies
  - Manage Deploymen
  - Manage Sustainmer
  - Interface Wizard
  - Reports Wizard
  - Print/Create Labels
- Movement Planning
  - Create UDL
    - View TPFDD Re
    - Assign Equipme
    - Assign Personne
  - Deployment/Exercis
    - Movement Plan
    - Create Mobile/S
    - Create Containe

Short Cuts
- Manage Equipment
- Movement Plan

Manage Equipment

UIC	NSN	Item ID	LIN Index	Pkg ID	Description	Model Num	NSN
WAY7AA	0000000000000	CB4875	01	BB-WAY7A	TRACTOR WHEEL	04-CASE 48	NOT R
WAY7AA	1005008566885	R94967	01	14000987	RIFLE 5.65MM	M16	BARE
WAY7AA	1005011289936	R95035	01	1002069	RIFLE 5.56MM	M16A2	BARE
WAY7AA	1005011289936	R95035	01	1002074	RIFLE 5.56MM	M16A2	BARE
WAY7AA	1305009263930	A071	01	233333099	CTG 5.56 MM BALL M19	M193	BARE

UIC:	WAY7AA	Item ID:	CB4875	GEOLOC:	HJVH
UIC Name:	0002 AR HHT C	Model Num:	04-CASE 480E	Location:	FT POLK
MSE:		Description:	TRACTOR WHEE	AIT Location:	
RUC:		NSN:	0000000000000	SUN:	
SUC:		NSN Config:	NOT REDUCIBLE	Bumper Num:	
Section:		AF NSN Suffix:		Deploy Echelon:	
Cont Owner Cd:		LIN Index:	01	Asset Type:	Equipment
Supply Class:		Serial Num:	BB-WAY7AA-BB	CEE:	Yes No
Haz Item Ind:	Yes No	Package ID:	BB-WAY7AA-BB	Command Attn:	Yes No
Last Updated:	19990401 05000	Type Data Cd:		Trans Echelon:	

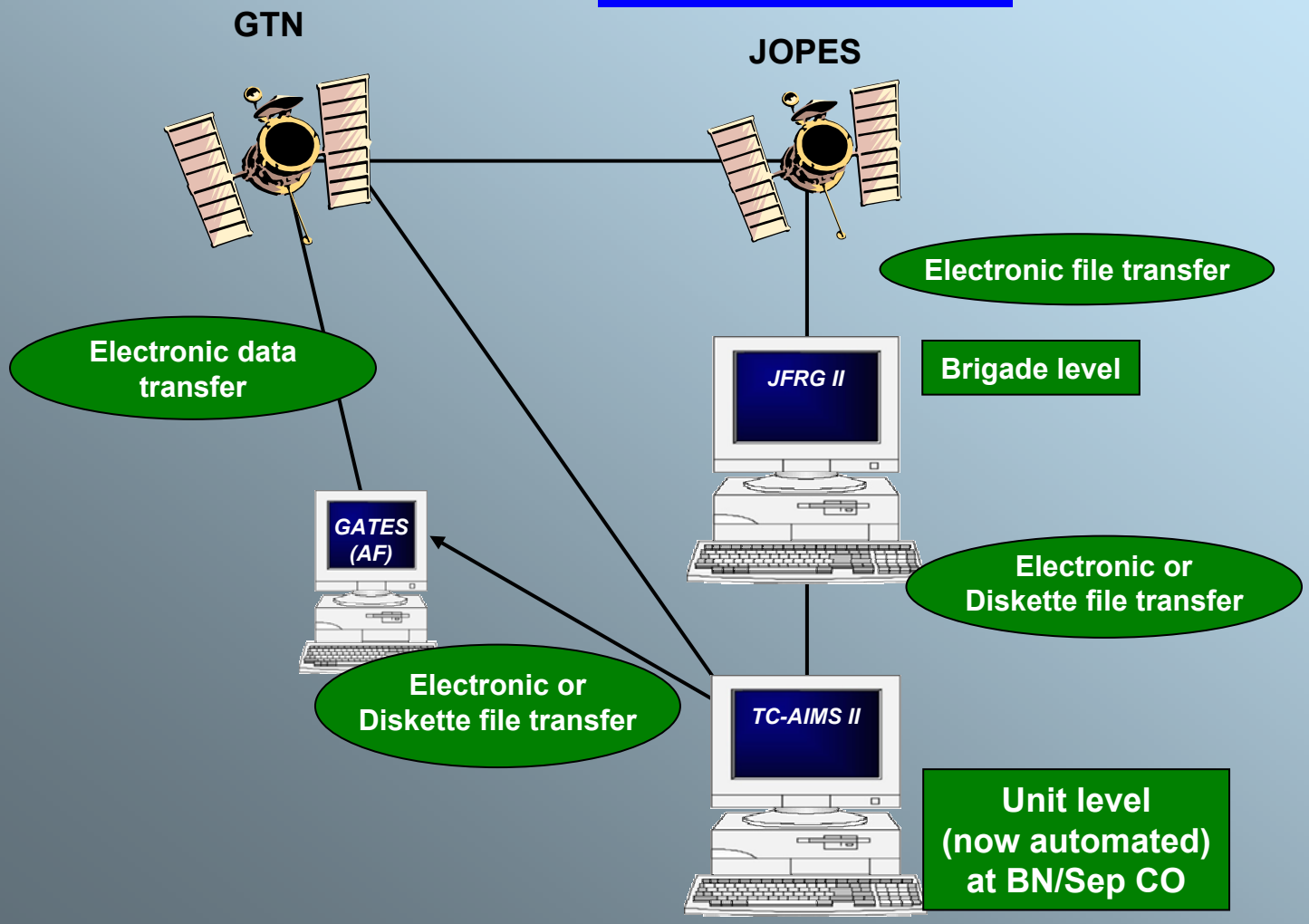
General | Inventory | Physical Characteristics | Other Characteristics
Remarks | Maintenance | Association | Hazards

OK Cancel

Supporting Soldiers…Sustaining The Army

Mr. Osborn, DALO-FPM/692-5930/robert.osbornr@hqda.army.mil

TC-AIMS II



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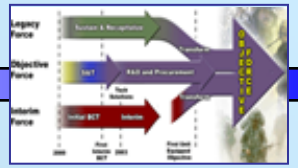


Block 1 Key Performance Parameters

99 JROC-approved ORD still valid

Revised ORD for subsequent Blocks at AROC 16 Jul

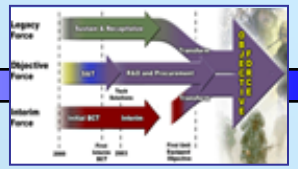
Joint Interoperability

AIT Equipment

Report Generation

Data Automation

Mr. Osborn, DALO-FPM/692-5930/robert.osbornr@hqda.army.mil



JROC-Approved Block 1 Interim Solution

TC-AIMS II as the joint force movement data source

- ✓ ARMY
- ✓ NAVY
- ☐ MARINES
- ☐ AIR FORCE

TC-AIMS II Block 1:

- Provides single, joint source for unit deployment data for TPFDD build
- Deployable remote TPFDD feeder system
- Minimal communications requirements
- Replaces multiple Service deployment data systems
- Supports all Services deployment & RSOI planning and execution
- Facilitates JOPES 21

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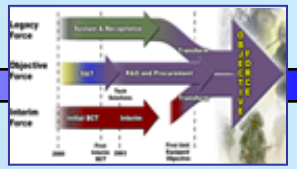

TC-AIMS II Block 1 Fielding Issue

- **Lack of tactical level Joint Deployment Process**
- **TC AIMS II interoperability problems resulting from nonstandard data perpetuated in legacy systems**
- **Air Force and Marine Corps have continued development of legacy deployment systems**

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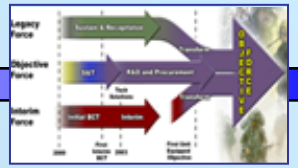


User Recommendation

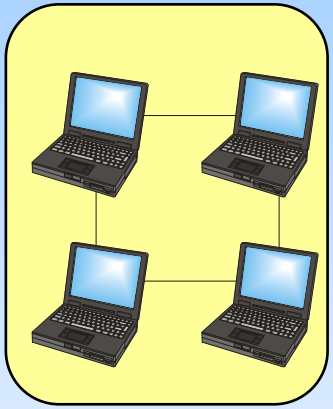
- Field TC-AIMS II Block 1 to US Navy and USAREUR **NOW.**
- Field to the remainder of the Army after successful ATEC re-look in Aug 2002.
- Recommend to ASD(C3I) to approve fielding to US Army and US Navy.

Mr. Osborn, DALO-FPM/692-5930/robert.osbornr@hqda.army.mil

TC-AIMS II Scaleable Application (Block 1)

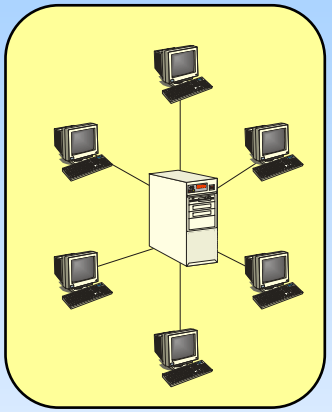
Standalone

- Support user with limited or no network connectivity
- All TC-AIMS II components are installed on user's machine including the database and application
- Data can be exported to a flat file and shared with other TC-AIMS II databases



Workgroup

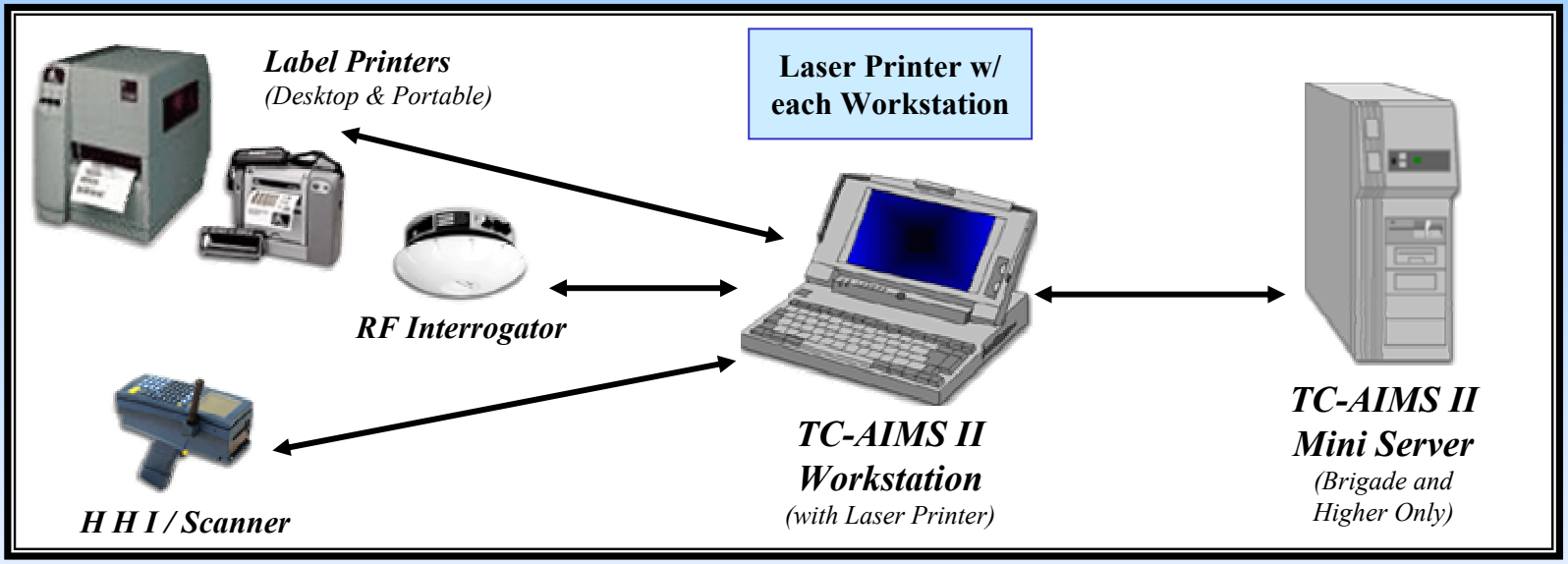
- TC-AIMS II machines connected as a workgroup supports client/server or standalone operations
- Any machine with the database can be the server
- Any machine with the application can be a client
- Supports occasional connection to the tactical network for external system communications



Client/Server

- Supports users with network connectivity
- Each machine on the network is considered a client or a server
- Server machines typically contains only the TC-AIMS II database
- Client machines typically contain only the application and other system components

TC-AIMS II Typical Unit Move Hardware Distribution



Separate Company

Company HQ

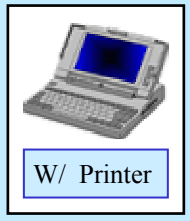
Battalion Level

S-3

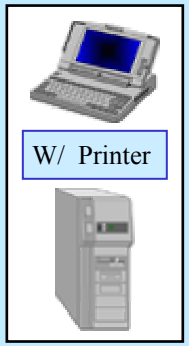
S-4

Brigade Level & Higher

S-3



S-4



HHC

TC-AIMS II Block 1 Interfaces

MANAGEMENT
- GTN - J

LOAD PLANNING
- AALPS - J
- CAEMS - MC
- CALM - J
- ICODES - J

MATERIAL MANAGEMENT
- ATLASS - MC
- ROLMS - MC

UNIT ASSETS
- LOGMOD - AF
- MDSS II - MC
- NCFMIS - N

TRANSPORTATION
- CAPS II/GATES – J
- CFM-HOST - J
- CMOS - J
- IBS - J
- TCACCIS - A
- WPS – J

UNIT PERSONNEL
- MANPER-B - AF
- SIDPERS III - A
- UD/MIPS - MC

PLANNING
- COMPASS – A
- JFRG II - J
- MAGTF II – MC
- SAAM - J

Army Fielding Schedule
(Funded Across POM)

FY02	FY03	FY04	FY05	FY06	FY07
USAREUR	Ft. Bragg	Ft. Dix	Ft. Jackson	Gowen Field	RTS (APG)
Ft. Lewis	Ft. Hood	Ft. McCoy	Ft. Knox	Ft. Irwin	RTS (Leonard Wood)
	Ft. Stewart	Korea (USA)	Ft. Lee	Ft. Gorden	RTS (Ripley)
	Ft. Benning	Hawaii (USA)	Ft. Leonard Wood	Ft. Pickett	
	Ft. Campbell	Ft. Richardson	Ft. Rucker	Ft. Sam Houston	
	Ft. Eustis	Aberdeen PG	Camp Atterbury	Camp Blanding	
	Ft. Drum	Ft. Buchanan	Camp Roberts	Camp Riley	
	Ft. Polk	Ft. Huachuca	Camp Shelby	Ft. Gillem	
	Ft. Riley			Ft. Sheridan	
	Ft. Sill			Ft. McCoy	
	Ft. Bliss			Ft. Carson	
	Ft. Carson			Ft. Riley	
				RTS (Japan)	
				RTS (Hawaii)	
				RTS (Lewis)	
				RTS (Devens)	
				RTS (Drum)	
				RTS (Dix)	
				RTS (Hood)	
				RTS (Atterbury)	

System Support

- Hardware Maintenance
  - User level limited to care and cleaning of equipment
  - Depot level
    - 6 year Commercial warranty – repair or replace:
      - » 24 hours CONUS
      - » 72 hours OCONUS
    - 6 year replacement cycle funded
- Software Maintenance
  - Periodic Maintenance Releases
  - Emergency Releases if needed
- Help Desk
  - 24 X 7 support
  - 2 Tier
    - » Direct Assistance
    - » Developer Support

Milestone Decision Review Readiness

	Red	Amber	Green
Acquisition Strategy			Green
Security Accreditation			Green
APB			Green
Army Cost Position			Green
CIO Assessment			Green
C4ISP			Green
Approved 1999 ORD still valid, ORD Update through Army Staffing (AROC on 16 July)			Green
ATEC “Relook” for USAREUR and Navy successful, FORSCOM “Relook” scheduled for 19-30 Aug 2002			Green
Program Management Risk			Green
Training			Green
Supportability			Green
Funding – Program Affordable through POM			Green

TC-AIMS II Block 1 - ATEC Position

- Field to U.S. Navy and USAREUR
- Field to FORSCOM and other MACOMs after successful ATEC evaluation in Aug 02
- Field to USAF and USMC when system is ready for evaluation

TC-AIMS II IOT&E Results Summary

- Four Services/Four Sites worldwide: 1 Nov – 14 Dec 01
- TC-AIMS II Block 1 was found to be ineffective, unsuitable, and not survivable
- TC-AIMS II Block 1 had significant performance and usability problems and did not support any of the Services' unit move processes
- Most TC-AIMS II problems at IOT&E were caused by software design/software errors, which resulted from lack of a standard transportation business process and no Joint common data standards
- ATEC recommended PM continue development with U.S. Navy (USN) and U.S. Army Europe (USAREUR) for Relook/Re-evaluation of TC-AIMS II Block 1
- J4, JFCOM, JTMB, TRANSCOM, MTMC, and all four Services were to resolve overall transportation business process and data standardization issues

TC-AIMS II Relook/Reevaluation of USN and USAREUR

- USN and USAREUR
  - IOT problems corrected
  - TC-AIMS II found effective, suitable, and survivable
- Results cannot be applied to other Services or ALL of Army

TC-AIMS II Affordability

	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	POM	ToC	TOTAL
PB 03 Lock											
RDT&E Funded	13.2	10.3	7.3	7.9	12.5	12.7	17.7	18.9	100.5	0.0	100.5
RDT&E Reqmts	13.2	10.3	16.5	18.7	18.3	23.1	17.6	18.3	136.0	32.1	168.2
RDT&E Delta	0.0	(0.1)	(9.2)	(10.8)	(5.8)	(10.4)	0.1	0.6	(35.5)	(32.1)	(67.7)
OPA Funded	25.3	11.5	15.1	14.5	30.6	20.2	26.1	26.4	169.7	250.5	420.2
OPA Reqmts	25.3	11.5	17.9	16.5	30.3	28.3	26.0	23.1	178.8	338.8	517.6
OPA Delta	0.0	(0.0)	(2.8)	(2.0)	0.4	(8.1)	0.1	3.3	(9.2)	(88.3)	(97.5)
OMA Funded	7.3	7.6	7.6	7.6	10.3	9.5	24.2	24.5	98.6	271.5	370.1
OMA Reqmts	7.3	7.6	9.6	11.6	11.8	23.7	16.3	16.0	103.9	239.9	343.8
OMA Delta	0.0	0.1	(2.0)	(4.0)	(1.5)	(14.2)	7.9	8.5	(5.4)	31.6	26.3
TOTAL Funded	45.8	29.4	30.0	30.0	53.4	42.4	68.0	69.8	368.7	522.0	890.7
TOTAL Rqmts	45.8	29.4	44.0	46.9	60.3	75.2	59.9	57.4	418.8	610.9	1,029.6
TOTAL Delta	0.0	0.0	(14.0)	(16.8)	(7.0)	(32.8)	8.1	12.4	(50.1)	(88.9)	(139.0)

FY03 - 07 is PB03. FY08 – 09 is FY04 – 09 PF1.0

- Cost Review Board approval – 19 Jun 02
- Shortfalls are covered by current POM file.
- Letter of commitment from Sustaining PEG to maintain current POM funding levels.

CRB-App'd Joint Cost Position

*PB03 Funding**

	TC-AIMS II / Legacy Total									
($ Millions)	**FY 02**	**FY 03**	**FY 04**	**FY 05**	**FY 06**	**FY 07**	**FY 08**	**FY 09**	**FY02-09**	**FY 04-09**
Joint Cost Position	45.8	29.4	44.0	46.8	60.4	75.1	59.9	57.4	418.8	343.6
Funding (PB 03 Lock)	42.4	29.4	30.0	30.0	53.4	42.4	67.9	69.8	365.3	293.5
UFR	3.4	0.0	14.0	16.8	7.0	32.7	(8.0)	(12.4)	53.5	50.1
% Funded	93%	100%	68%	64%	88%	56%	113%	122%	87%	85%

	OMA									
($ Millions)	**FY 02**	**FY 03**	**FY 04**	**FY 05**	**FY 06**	**FY 07**	**FY 08**	**FY 09**	**FY02-09**	**FY 04-09**
Joint Cost Position	7.3	7.6	9.6	11.6	11.8	23.7	16.3	16.0	103.9	89.0
Funding (PB 03 Lock)	7.3	7.6	7.6	7.6	10.3	9.5	24.2	24.5	98.5	83.6
UFR	(0.0)	(0.0)	2.0	4.0	1.5	14.2	(7.9)	(8.5)	5.4	5.4
% Funded	100%	100%	79%	65%	87%	40%	148%	153%	95%	94%

	RDTE									
($ Millions)	**FY 02**	**FY 03**	**FY 04**	**FY 05**	**FY 06**	**FY 07**	**FY 08**	**FY 09**	**FY02-09**	**FY 04-09**
Joint Cost Position	13.2	10.3	16.5	18.7	18.3	23.1	17.6	18.3	136.0	112.5
Funding (PB 03 Lock)	9.8	10.3	7.3	7.9	12.5	12.7	17.7	18.9	97.0	76.9
UFR	3.4	0.0	9.2	10.8	5.8	10.4	(0.1)	(0.6)	39.0	35.6
% Funded	74%	100%	44%	42%	68%	55%	100%	103%	71%	68%

	OPA									
($ Millions)	**FY 02**	**FY 03**	**FY 04**	**FY 05**	**FY 06**	**FY 07**	**FY 08**	**FY 09**	**FY02-09**	**FY 04-09**
Joint Cost Position	25.3	11.5	17.9	16.5	30.3	28.3	26.0	23.1	178.9	142.1
Funding (PB 03 Lock)	25.3	11.5	15.1	14.5	30.6	20.2	26.1	26.4	169.7	132.9
UFR	(0.0)	0.0	2.8	2.0	(0.3)	8.1	(0.1)	(3.3)	9.2	9.2
% Funded	100%	100%	84%	88%	101%	71%	100%	114%	95%	94%

- **Blocks 1 – 2**: Affordable in POM 04-09. PM TC-AIMS II covers $3.4M RDTE shortfall in FY02.
- **Blocks 3 – 5**: Affordable in POM 04-09, given a funding increase of $70.5M in FY04-07. SS PEG has committed to funding $70.5M shortfall; currently in PF 2.0. Funding can be reduced by $20.4M in FY08-09.
- **Block 6 – 7**: Affordable, assuming PF 2.0 funding levels extend beyond FY09. Current cost position and schedule indicate Block 6 will be completed in FY10 and Block 7 will be completed in FY11.*

Recommendations

- Field TC-AIMS II Block 1 to US Navy and USAREUR **NOW!**
- Field to the remainder of the Army after successful ATEC re-look in Aug 2002
- Recommend to ASD(C3I) to approve fielding to US Army and US Navy.

ANNEX E
OIPT BRIEF

TC-AIMS II

Transportation Coordinators' –
Automated Information for Movements System II

OIPT

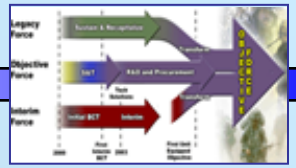
26 June 2002

Agenda

➢ Introduction	PEO, EIS
➢ Program Mission and Need	HQDA, G4 Executive Agent
➢ Developer's Brief	PM, TIS
➢ Recommendation	PM, TIS

Decisions Requested

Deploy TC-AIMS II Block 1 to US Navy and USAREUR **NOW!**



99 JROC-Approved Deployment IT Solution

SERVICE LEGACY SYSTEMS

JOINT SOLUTION

CMOS - ITO/TMO

TC-AIMS - Unit Moves

MDSS II - Move Plans

TC ACCIS - Rail Load Module

DAMMS – Convoy Module

Migration Process

TC-AIMS II

Visibility of Deploying Assets

- Army is Executive Agent
- 99 JROC approved ORD for Block 1
  - ORD revision for subsequent blocks scheduled for 16 July AROC
- Supports CJCS 72-hour TPFDD initiative
- Supports CSA Transformation Deployment Objectives
- Provides ITV

Supporting Soldiers…Sustaining The Army

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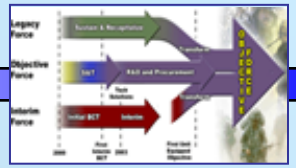
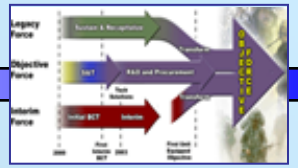


Army NEEDS TC-AIMS II NOW!

- Army expending maintenance money on antiquated legacy system, TC-ACCIS
- TC-ACCIS is non deployable
- TC-AIMS II **IS** a deployable capability that supports intra-theater deployment and re-deployment
- TC-AIMS II supports Army transformation
- Complies with CJCSI 3020.01 of June 2000

Mr. Osborn, DALO-FPM/692-5930/robert.osbornr@hqda.army.mil

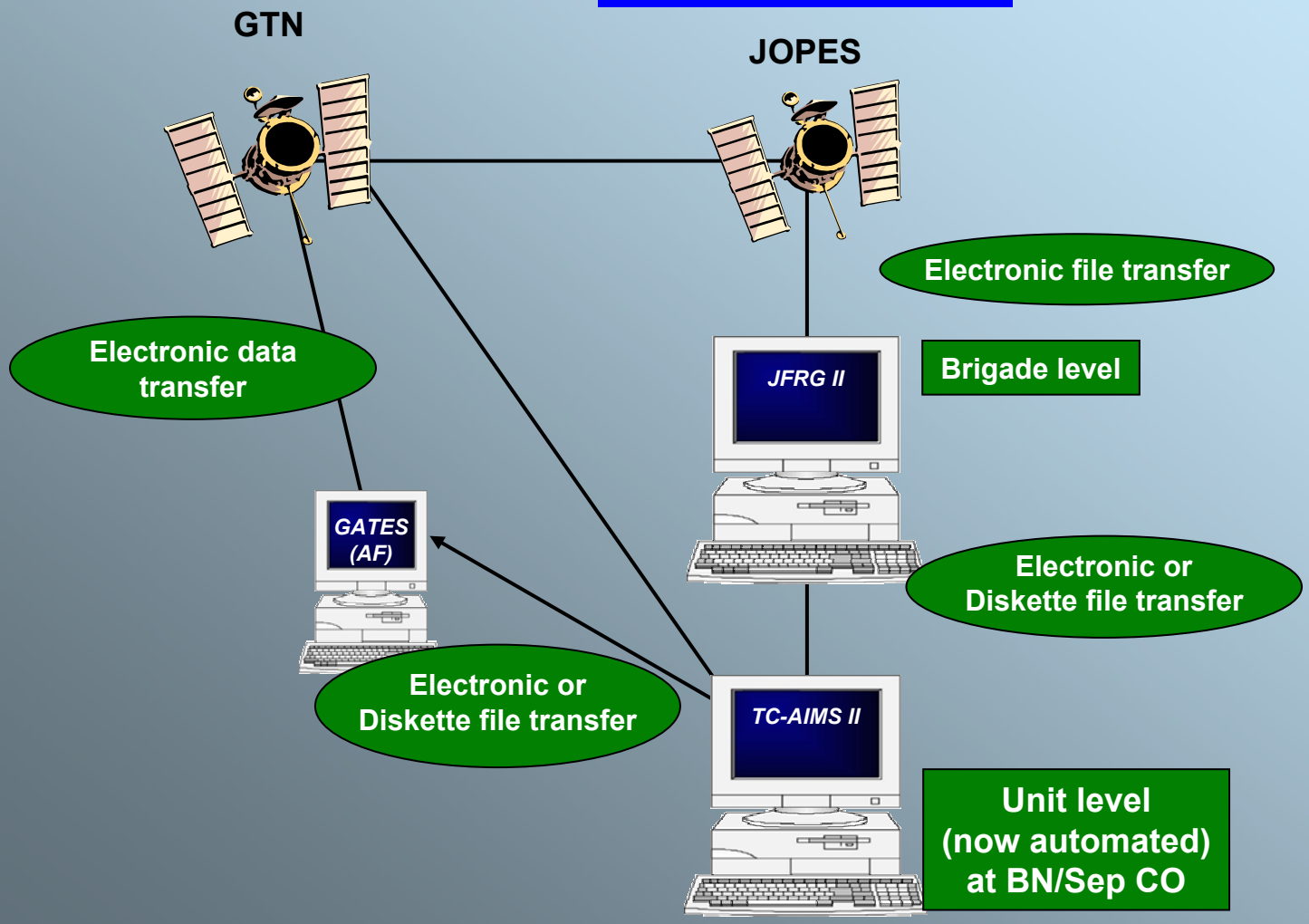


Navy Needs TC-AIMS II NOW!

- No automated system to support deployment
- TC-AIMS II allows Navy to deploy:
  - Faster
  - Cost-effectively
  - Efficiently-Manpower Utilization

Mr. Osborn, DALO-FPM/692-5930/robert.osbornr@hqda.army.mil

TC-AIMS II



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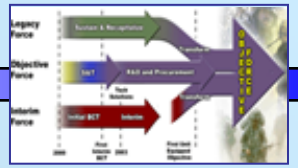

Block 1 Key Performance Parameters

99 JROC-approved ORD still valid

Revised ORD for subsequent Blocks at AROC 16 Jul

Joint Interoperability

AIT Equipment

Report Generation

Data Automation

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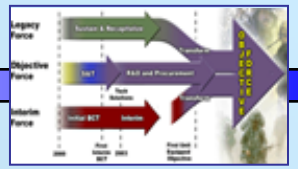


JROC-Approved Block 1 Interim Solution

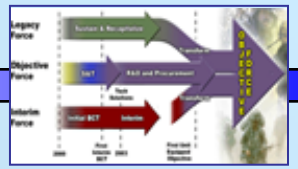
TC-AIMS II as the joint force movement data source

- ✓ ARMY
- ✓ NAVY
- ☐ MARINES
- ☐ AIR FORCE

TC-AIMS II Block 1:

- Provides single, joint source for unit deployment data for TPFDD build
- Deployable remote TPFDD feeder system
- Minimal communications requirements
- Replaces multiple Service deployment data systems
- Supports all Services deployment & RSOI planning and execution
- Facilitates JOPES 21

Mr. Osborn, DALO-FPM/692-5930/robert.osbornr@hqda.army.mil



TC-AIMS II Block 1 Fielding Issue

- **Lack of tactical level Joint Deployment Process**
- **TC AIMS II interoperability problems resulting from nonstandard data perpetuated in legacy systems**
- **Air Force and Marine Corps have continued development of alternative systems**

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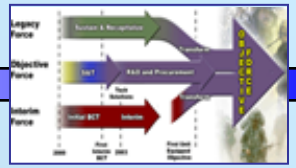


User Recommendation

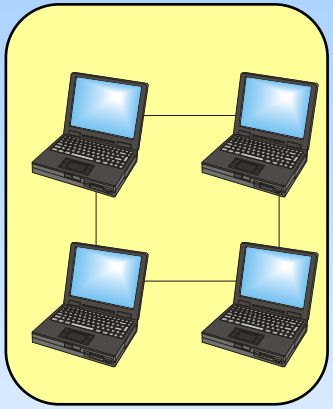
Deploy TC-AIMS II Block 1 to
US Navy and USAREUR **NOW!**

Mr. Osborn, DALO-FPM/692-5930/robert.osbornr@hqda.army.mil

TC-AIMS II Scaleable Application (Block 1)

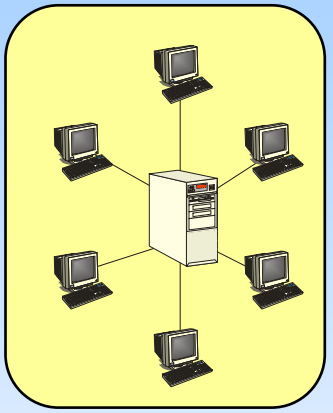
Standalone

- Support user with limited or no network connectivity
- All TC-AIMS II components are installed on user's machine including the database and application
- Data can be exported to a flat file and shared with other TC-AIMS II databases



Workgroup

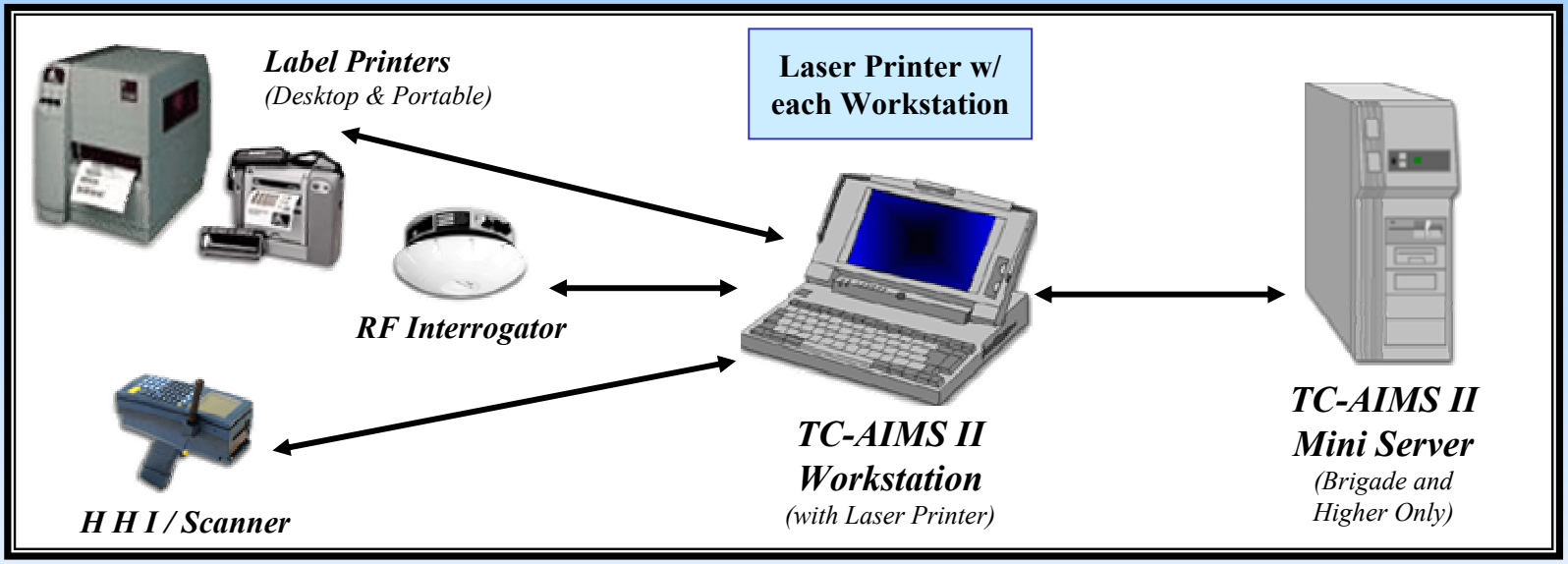
- TC-AIMS II machines connected as a workgroup supports client/server or standalone operations
- Any machine with the database can be the server
- Any machine with the application can be a client
- Supports occasional connection to the tactical network for external system communications



Client/Server

- Supports users with network connectivity
- Each machine on the network is considered a client or a server
- Server machines typically contains only the TC-AIMS II database
- Client machines typically contain only the application and other system components

Typical Army Block 1 Hardware Distribution



Separate Company

Company HQ

W/ Printer

Battalion Level

S-3

W/ Printer

S-4

W/ Printer

Brigade Level & Higher

S-3

W/ Printer

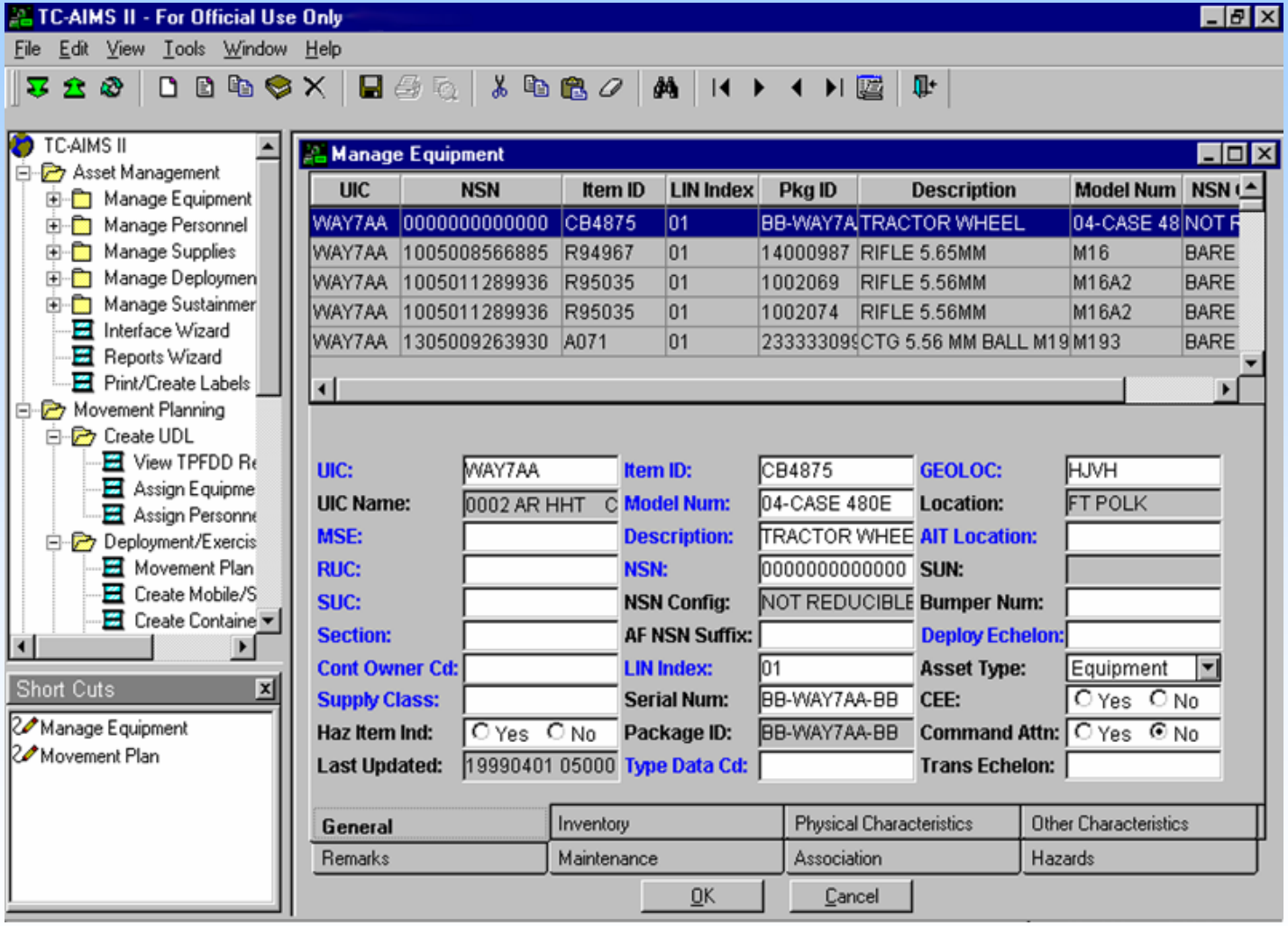
S-4

W/ Printer

HHC

W/ Printer

TC-AIMS II Sample Screen



TC-AIMS II Block 1 Interfaces

MANAGEMENT
- GTN - J

LOAD PLANNING
- AALPS - J
- CAEMS - MC
- CALM - J
- ICODES - J

MATERIAL MANAGEMENT
- ATLASS - MC
- ROLMS - MC

UNIT ASSETS
- LOGMOD - AF
- MDSS II - MC
- NCFMIS - N

TRANSPORTATION
- CAPS II/GATES – J
- CFM-HOST - J
- CMOS - J
- IBS - J
- TCACCIS - A
- WPS – J

UNIT PERSONNEL
- MANPER-B - AF
- SIDPERS III - A
- UD/MIPS - MC

PLANNING
- COMPASS – A
- JFRG II - J
- MAGTF II – MC
- SAAM - J

System Support

- Hardware Maintenance
  - User level limited to care and cleaning of equipment
  - Depot level
    - 6 year Commercial warranty – repair or replace:
      - » 24 hours CONUS
      - » 72 hours OCONUS
    - 6 year replacement cycle funded
- Software Maintenance
  - Periodic Maintenance Releases
  - Emergency Releases if needed
- Help Desk
  - 24 X 7 support
  - 2 Tier
    - » Direct Assistance
    - » Developer Support

Acquisition Documentation Status

	Status
Acquisition Strategy	Awaiting ASD C3I signature
Security Accreditation	Approved 11 Apr 02
APB	Awaiting AAE signature
Joint Cost Position	Approved 19 Jun 02
CIO Assessment	Approved 19 Jun 02
C4ISP	Ready for Stage 2 Review after ORD Revalidation
ORD	Approved 1999 ORD still valid, ORD Update through Army Staffing (AROC on 16 July)
Test & Evaluation	ATEC "Relook" for USAREUR and Navy successful, FORSCOM "Relook" scheduled for 19-30 Aug 2002
Funding	Program Affordable through POM (Army PA&E)

TC-AIMS II Acquisition Structure
(Funded Across POM)

Block 1 = 50% of Total Requirement — Unit Move

Block 2 — Enhanced Unit Move (Web)

Block 3 — Movements Control & Planning

Block 4 — Maritime Prepositioning Force

Block 5 — Theater Ops

Block 6 — ITO/TMO

Block 7 — Map Graphics

Today's Decision supports Deploying 50% of the total program capability to the Army and Navy.

Service	# of Systems
Army	800
Navy	500

TC-AIMS II Block 1 - ATEC Position

- Field to U.S. Navy and USAREUR
- Field to FORSCOM and other MACOMs after successful ATEC evaluation in Aug 02
- Field to USAF and USMC when system is ready for evaluation

Approved Joint Cost Position

	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	POM	ToC	TOTAL
PB 03 Lock											
RDT&E Funded	13.2	10.3	7.3	7.9	12.5	12.7	17.7	18.9	100.5	0.0	100.5
RDT&E Reqmts	13.2	10.3	16.5	18.7	18.3	23.1	17.6	18.3	136.0	32.1	168.2
RDT&E Delta	0.0	(0.1)	(9.2)	(10.8)	(5.8)	(10.4)	0.1	0.6	(35.5)	(32.1)	(67.7)
OPA Funded	25.3	11.5	15.1	14.5	30.6	20.2	26.1	26.4	169.7	250.5	420.2
OPA Reqmts	25.3	11.5	17.9	16.5	30.3	28.3	26.0	23.1	178.8	338.8	517.6
OPA Delta	0.0	(0.0)	(2.8)	(2.0)	0.4	(8.1)	0.1	3.3	(9.2)	(88.3)	(97.5)
OMA Funded	7.3	7.6	7.6	7.6	10.3	9.5	24.2	24.5	98.6	271.5	370.1
OMA Reqmts	7.3	7.6	9.6	11.6	11.8	23.7	16.3	16.0	103.9	239.9	343.8
OMA Delta	0.0	0.1	(2.0)	(4.0)	(1.5)	(14.2)	7.9	8.5	(5.4)	31.6	26.3
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TOTAL Delta	0.0	0.0	(14.0)	(16.8)	(7.0)	(32.8)	8.1	12.4	(50.1)	(88.9)	(139.0)

FY03 - 07 is PB03. FY08 – 09 is FY04 – 09 PF1.0

- Cost Review Board approval – 19 Jun 02
- Shortfalls are covered by current POM file.
- Letter of commitment from Sustaining PEG to maintain current POM funding levels.

MS III Approach

- Block 1 OIPT Review – 26 June 2002 – Request Deployment for USN and USAREUR
- ATEC “relook” for remainder of Army in Aug 2002
- Block 1 MS III Review – Sept 2002

Recommendation

Field TC-AIMS II Block 1 to US Navy and USAREUR NOW!